

13 Rec'd PCT/PTO 04 JAN 2002
09/869486

-1-

SEQUENCE LISTING

<110> Scharenberg, Andrew

<120> CHARACTERIZATION OF THE SOC/CRAC CALCIUM CHANNEL PROTEIN FAMILY

<130> B0662/7026/ERP/KA

<140> 09/869,486

<141> 1999-12-20

<150> U.S. 60/114,220

<151> 1998-12-30

<150> U.S. 60/120,018

<151> 1999-01-29

<150> U.S. 60/140,415

<151> 1999-06-22

<150> PCT/US99/29996

<151> 1999-12-20

<160> 32

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1212

<212> DNA

<213> Homo Sapiens

<400> 1

gcacgaggca	aattttttgt	tagtacacca	tctcagccaa	gttgcaaaaag	ccacttggaa	60
actggaacca	aagatcaaga	aactgtttgc	tctaaagcta	cagaaggaga	taatacagaa	120
tttgaggcat	ttgtaggaca	cagagatagc	atggatttac	agaggtttaa	agaaacatca	180
aacaagataa	aaatactatc	caataacaat	acttctgaaa	acactttgaa	acgagtgagt	240
tctcttgctg	gatttactga	ctgtcacaga	acttccattc	ctgttcattc	aaaacaagaa	300
aaaatcagta	gaaggccatc	taccgaagac	actcatgaag	tagattccaa	agcagcttta	360
ataccggttt	gtagatttca	actaaacaga	tatatattat	taaatacatt	aaactttttt	420
agataagatc	tacaaagtgg	tgatatttgg	gactatatca	aaaattcaaa	aaaatttttc	480
ttaagaaaaac	tgacttttagc	atagtagcag	ttacagaaaa	gtttcttaca	gtgaatagtc	540
aggaattttta	aagaaaaatt	tatgcagaat	aaaggcagga	atctcttttt	gtttgaattg	600
aagctaatta	tatgaactca	tttccagcta	actgcgataa	tgattgattt	tgcaaattcc	660
cttttaaaagc	acacactgac	aagacaaaaa	gctcaggaaa	aggcagaaaa	attactcctt	720
tataatcaag	tattatatat	aagtcagtgc	tcataatttt	gctcaagaaa	atattgactt	780
acattcatat	atatctgttc	tgccatagag	agattatggt	gttaaaatca	tgttattgaa	840
aaaagttatt	tcagtgggga	aagagggttag	ttacaaagaa	gattcacagt	aacaaatcct	900
cctttctgga	gggactcttc	ctgaccctga	gctgcacaac	tttgcaacaa	attaaagcct	960
aaccgaagat	gacctcacia	tggaatttta	gaactcatgg	gagtcaactt	acataaacgg	1020
tatttgattt	ctgataagat	agtggaatta	ttggttatag	atgacaaaaat	aagtatgttt	1080
aaagtgatga	tggacataaa	aaagttttta	atataaaaaca	tgagaaaaaga	aggagatact	1140
attcaaaaag	actggcaaat	ttgaaaaaact	agaaataaaa	aaaaaaaaaa	aaaatgagcg	1200
gccgcaagct	tt					1212

<210> 2

<211> 141

<212> PRT

<213> Homo Sapiens

-2-

<400> 2
 Ala Arg Gly Lys Phe Phe Val Ser Thr Pro Ser Gln Pro Ser Cys Lys
 1 5 10 15
 Ser His Leu Glu Thr Gly Thr Lys Asp Gln Glu Thr Val Cys Ser Lys
 20 25 30
 Ala Thr Glu Gly Asp Asn Thr Glu Phe Gly Ala Phe Val Gly His Arg
 35 40 45
 Asp Ser Met Asp Leu Gln Arg Phe Lys Glu Thr Ser Asn Lys Ile Lys
 50 55 60
 Ile Leu Ser Asn Asn Asn Thr Ser Glu Asn Thr Leu Lys Arg Val Ser
 65 70 75 80
 Ser Leu Ala Gly Phe Thr Asp Cys His Arg Thr Ser Ile Pro Val His
 85 90 95
 Ser Lys Gln Glu Lys Ile Ser Arg Arg Pro Ser Thr Glu Asp Thr His
 100 105 110
 Glu Val Asp Ser Lys Ala Ala Leu Ile Pro Val Cys Arg Phe Gln Leu
 115 120 125
 Asn Arg Tyr Ile Leu Leu Asn Thr Leu Asn Phe Phe Arg
 130 135 140

<210> 3
 <211> 739
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (5)...(5)
 <223> UNKNOWN

<221> unsure
 <222> (21)...(22)
 <223> UNKNOWN

<221> unsure
 <222> (29)...(29)
 <223> UNKNOWN

<400> 3
 tcgantaggg gtcttccacc nncatactng gatgatgggt ggtgaagtct atgcatacga 60
 aattgatgtg tgtgcaaacg attctgttat ccctcaaato tgtggctctg ggacgtgggt 120
 gactccattt cttcaagcag tctacctctt tgwacagtat atcattatgg ttaattctct 180
 tattgcattt ytcaacaatg tgtatttaca agtgaaggca atttccaata ttgyatggaa 240
 gtaccagcgt tatcatttta ttatggctta tcatgagaaa ccagttctgc ctctccact 300
 tatcattctt agccatatag tttctctggt ttgctgcata tgtaagagaa gaaagaaaga 360
 taagacttcc gatggaccaa aacttttctt aacagaagaa gatcaaaaga aacttcatga 420
 ttttgaagag cagtgtgttg aaatgtattt caatgaaaaa gatgacaaat ttcatctctg 480
 gagtgaagag agaattcgtg tcacttttga aagagtggaa cagatgtgca ttcagattaa 540
 agaagtggga gatccgtgtc aactacataa aaagatcatt acaatcatta gattctcaaa 600
 ttggccattt gcaagatctt tcagccctga cggtagatac attaaaaaca ctactggcc 660
 aaaagcgtcg gaagctagca aagttcataa tgaaatcaca cgagaactga gcatttccaa 720
 acacttggct caaaacctt 739

<210> 4
 <211> 235
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (41)...(41)

-3-

<223> UNKNOWN

<221> UNSURE

<222> (54)...(54)

<223> UNKNOWN

<221> UNSURE

<222> (68)...(68)

<223> UNKNOWN

<400> 4

Met	Met	Val	Gly	Glu	Val	Tyr	Ala	Tyr	Glu	Ile	Asp	Val	Cys	Ala	Asn
1				5					10					15	
Asp	Ser	Val	Ile	Pro	Gln	Ile	Cys	Gly	Pro	Gly	Thr	Trp	Leu	Thr	Pro
			20					25					30		
Phe	Leu	Gln	Ala	Val	Tyr	Leu	Phe	Xaa	Gln	Tyr	Ile	Ile	Met	Val	Asn
		35					40					45			
Leu	Leu	Ile	Ala	Phe	Xaa	Asn	Asn	Val	Tyr	Leu	Gln	Val	Lys	Ala	Ile
		50				55					60				
Ser	Asn	Ile	Xaa	Trp	Lys	Tyr	Gln	Arg	Tyr	His	Phe	Ile	Met	Ala	Tyr
65					70				75					80	
His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile	Leu	Ser	His	Ile
				85					90					95	
Val	Ser	Leu	Phe	Cys	Cys	Ile	Cys	Lys	Arg	Arg	Lys	Lys	Asp	Lys	Thr
			100					105					110		
Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp	Gln	Lys	Lys	Leu
		115					120					125			
His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe	Asn	Glu	Lys	Asp
		130				135					140				
Asp	Lys	Phe	His	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg	Val	Thr	Phe	Glu
145					150					155					160
Arg	Val	Glu	Gln	Met	Cys	Ile	Gln	Ile	Lys	Glu	Val	Gly	Asp	Pro	Cys
			165						170					175	
Gln	Leu	His	Lys	Lys	Ile	Ile	Thr	Ile	Ile	Arg	Phe	Ser	Asn	Trp	Pro
			180					185					190		
Phe	Ala	Arg	Ser	Phe	Ser	Pro	Asp	Gly	Arg	Tyr	Ile	Lys	Asn	Thr	His
		195					200					205			
Trp	Pro	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn	Glu	Ile	Thr	Arg
	210					215						220			
Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn					
225					230					235					

<210> 5

<211> 1579

<212> DNA

<213> Homo Sapiens

<220>

<221> unsure

<222> (368)...(368)

<223> g or c

<221> unsure

<222> (372)...(372)

<223> g or c

<221> unsure

<222> (374)...(374)

<223> g or a

<221> unsure

-4-

<222> (375)...(375)

<223> g or c

<221> unsure

<222> (387)...(387)

<221> unsure

<222> (482)...(482)

<400> 5

acgtcgccgtg	caggtaccgg	tccggaattc	ccgggtcgac	ccacgcgtcc	ggcatgggtg	60
tgtaaataca	cttagctcct	ctcttcctca	aggtgatctt	gaaagtaata	atccttttca	120
ttgtaatatt	ttaatgaaag	atgacaaaaga	tccccagtg	aatatatattg	gtcaagactt	180
acctgcagta	ccccagagaa	aagaatttaa	ttttccagag	gctgggttctt	cttctgggtgc	240
cttattccca	agtgtgtgtt	cccctccaga	actgcgacag	agactacatg	gggtagaact	300
cttaaaaaata	tttaataaaa	atcaaaaatt	aggcagttca	tctactagca	taccacatct	360
gtcatccscn	csarscanat	tttttgntag	tacaccatct	cagccaagtt	gcaaaaagcca	420
cttggaact	ggaaccaaaag	atcaagaaac	tgtttgctct	aaagctacag	aaggagataa	480
tncagaattt	ggagcatttg	taggacacag	agatagcatg	gattttacaga	ggtttaaaga	540
aacatcaaac	aagataaaaa	tactatccaa	taacaatact	tctgaaaaca	ctttgaaacg	600
agtgagttct	cttgctggat	ttactgactg	tcacagaact	tccattcctg	ttcattcaaa	660
acaagaaaaa	atcagtagaa	ggccatctac	cgaagacact	catgaagtag	attccaaagc	720
agctttaata	ccggtttgta	gatttcaact	aaacagatat	atattattaa	atacattaaa	780
cttttttaga	taagatctac	aaagtgggtga	tatttgggac	tatatcaaaa	attcaaaaaa	840
atttttctta	agaaaactga	ctttagcata	gtagcagtta	cagaaaagtt	tcttacagtg	900
aatagtcagg	aattttaaag	aaaaatttat	gcagaataaa	ggcaggaatc	tctttttggt	960
tgaattgaag	ctaattatat	gaactcattt	ccagctaact	gcgataatga	ttgattttgc	1020
aaattccctt	taaaagcaca	cactgacaag	acaaaaagct	caggaaaagg	cagaaaaatt	1080
actcctttat	aatcaagtat	tatatataag	tcagtgtctca	taattttgct	caagaaaata	1140
ttgacttaca	ttcatatata	tctgttctgg	catagagaga	ttatgttggt	aaaatcatgt	1200
tattgaaaaa	agttattttca	gtgggggaaag	aggttagtta	acaaagagat	tcacagtaac	1260
aaatcctcct	ttctggaggg	actcttctctg	accctgagct	gcacaacttt	gcaacaaatt	1320
aaagcctaac	cgaagatgac	ctcacaatgg	caatttagaa	ctcatgggag	tcaacttaca	1380
taaacgggat	ttgattttctg	ataagatagt	ggaattattg	gttatagatg	acaaaataag	1440
tatgttttaa	gtgatgatgg	acataaaaaa	gttttaataa	taaaacatga	gaaaagaagg	1500
agatactatt	caaaaagact	ggcaaatttg	aaaaactaga	aataaaaaaa	aaaaaaaaaa	1560
atgagcggcc	gcaagcttt					1579

<210> 6

<211> 243

<212> PRT

<213> Homo Sapiens

<220>

<221> UNSURE

<222> (103)...(105)

<223> UNKNOWN

<221> UNSURE

<222> (109)...(109)

<223> UNKNOWN

<221> UNSURE

<222> (141)...(141)

<223> UNKNOWN

<400> 6

Val	Asn	Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Leu	Glu	Ser	Asn
1				5					10					15	
Asn	Pro	Phe	His	Cys	Asn	Ile	Leu	Met	Lys	Asp	Asp	Lys	Asp	Pro	Gln
			20					25						30	

```
<210> 7
<211> 3532
<212> DNA
<213> Mus Musculus

<220>
<221> unsure
<222> (2420) ... (2420)
<223> unknown

<221> unsure
<222> (2434) ... (2434)
<223> unknown

<221> unsure
<222> (2461) ... (2461)
<223> unknown

<221> unsure
<222> (2466) ... (2466)
<223> unknown

<221> unsure
<222> (2470) ... (2470)
<223> unknown
```

<400> 7						
attatggctt	atcatgaaaa	accagtcctg	cctcctcctc	ttatcatcct	cagccatata	60
gtttcactgt	tttgctgtgt	atgcaaaaga	agaaagaaag	ataagacttc	cgatgggcc	120
aaacttttct	taacagaaag	agatcaaaag	aaactccatg	attttgaaga	gcagtggtgt	180
gagatgtact	ttgatgagaa	agatgacaaa	ttcaattctg	ggagtgaaga	gagaatccgg	240
gtcacttttct	aaagagttga	gcagatgagc	attcagatta	aagaagtgtg	agatcgtgtc	300

-6-

aactacataa	aaagatcatt	acagtccttta	gattctcaaa	ttggtcatct	gcaagatctc	360
tcagccctaa	cagtagatac	attgaaaaca	cttacagccc	agaaagcttc	agaagctagt	420
aaagtgcaca	atgagatcac	acgagaattg	agtattttcca	aacacttggc	tcagaatcctt	480
attgatgatg	ttcctgtaag	acctttgtgg	gaagaacctt	gtgctgtaaa	cacactgagt	540
tcctctcttc	ctcaagggtg	tcgggaaagt	aataatcctt	ttctttgtaa	tatttttatg	600
aaagatgaaa	aagaccccca	atataatctg	tttgacaag	atttgcccgt	gatacccccag	660
agaaaagaat	tcaacattcc	agaggctggt	tcctcctgtg	gtgccttatt	cccaagtgtc	720
gtttctcccc	cagaattacg	acagagacga	catggggtag	aaatgttaaa	aatattttaat	780
aaaaatcaaa	aattaggcag	ttcaccta	agtccaccac	atatgtcctc	cccaccaacc	840
aaatctctctg	tgagtacccc	atcccagcca	agttgcaaaa	gtcacttgga	atccacaacc	900
aaagatcaag	aacccatttt	ctataaagct	gcagaagggg	ataacataga	atttgaggca	960
tttgtgggac	acagagatag	tatggactta	cagaggttta	aagaaacatc	aaacaaaata	1020
agagaactgt	tatctaata	tactcctgaa	aacactctga	aacatgtggg	tgctgtctgga	1080
tatagtgaat	gttgtaagac	ttctacttct	cttcactcgg	tgcaagcaga	aagctgtagt	1140
agaagagcgt	cgacggaaga	ctctccagaa	gtcgattcta	aagcagcttt	gttacgggat	1200
tggttacgag	atagaccatc	aaacagagaa	atgccatctg	aaggaggaac	attaaatggt	1260
cttgcttctc	catttaagcc	cgttttggat	acaaattact	attattcagc	tgtggaaaga	1320
aataacctga	tgagggtgtc	acagagtatt	cccttcgttc	ctgtacctcc	acgaggcgag	1380
cctgtcacag	tgtaccgtct	ggaggagagt	tctcccagta	tactgaataa	cagcatgtct	1440
tcatggtctc	agctaggcct	ctgtgccaaa	attgagtttt	taagtaaaga	ggaaatggaa	1500
ggtggtttac	gaagagcagt	caaagtgtctg	tgtacctggg	cagagcacga	tatcctgaag	1560
tcagggcac	tctatatcat	taagtcat	cttcctgagg	tgataaacac	atggtcaagc	1620
atttataaag	aagatacgg	tctacatctc	tgtctcagag	aaatacaaca	acagagagca	1680
gcacaaaagc	tcacatttgc	ctttaatcag	atgaaaccca	aatccatacc	atattctcca	1740
aggttccttg	aagttttcct	gttgactgc	cattcagcag	ggcagtgggt	tgctgtagaa	1800
gagtgcata	ctggtgaatt	tagaaaatac	aacaacaata	atggtgatga	aatcattcct	1860
acaaatactc	tagaagagat	catgctagcc	tttagccact	ggacctatga	atataccaga	1920
ggggagttac	tggtacttga	cttacaagga	gtgggagaaa	acttgactga	cccatctgta	1980
ataaaagctg	aagaaaaaag	atcctgtgac	atggtttttg	gccctgccaa	tctaggagaa	2040
gatgcaataa	aaaacttcaa	gagccaaaca	tccactgtaa	ttcttgctgt	cgaaagctta	2100
aacttcccag	atttgaagag	gaatgactac	acgcccttga	taaaattata	tttctcagg	2160
atgagtcac	agatttgaat	cttcaatctg	gaaattccac	caaagaatca	gaagcaacaa	2220
attctgttcg	tctgatgtta	tagtgctgag	tcattggttt	ttgcctacac	ttcacaaaag	2280
tgtaactgtc	agttttcctt	tcgggggaat	tgatgatata	ggaagatgtg	tgcaaaatga	2340
gcttgctggc	cccacacata	gtctagaggt	aatgttctca	ttgaaaaacg	cctggagggtg	2400
gaggctgcag	atgccagtg	aaagtgtctg	ctgncagaga	gtcagtgtct	tcgggctggt	2460
naaggncggn	acccttgctg	ctgagagtgg	tggttctctt	cacctgggtg	aggaccatta	2520
accaaagtca	agtcttcaga	tttgattggc	tgctcagtc	cagcccatc	agctaaggaa	2580
actaaattgc	gcagcttttt	aaatggctga	agtcttctc	agtttgtgct	ctatgataat	2640
gatgttagct	ctcaactagg	tgtttggtgc	cacgggagaa	ctactcctta	caattttgct	2700
tcacaggcat	gttacaaaag	ctgcactgaa	aaccgtttgt	cttccctctc	ttccctccctc	2760
ttttccctgt	agtattgagg	atcaaacc	gggcctcatg	aagaccattt	tctaagagac	2820
attttattta	agaatcaact	atagagtcta	tgtttatgga	tacagccagt	ttttgttaaa	2880
caaaacctga	attgtgcaaa	agggtttttt	aacatttatc	aatgttaagt	aaaagaaagc	2940
catgataaat	aagaattaac	tcactgttca	atgggtgttt	cctgtgagga	aggttacagt	3000
tgtaacagcc	tgcaagtgtg	tacatctcca	aagattttaca	gacttagtgt	atcaaatcag	3060
agtgtcatgt	gagctctcac	attgaaaatt	ctataggaat	gtgtcaatgt	gaattctatt	3120
tctgggtact	aagaaatcag	ttgttggtat	atccttatac	agtataggga	gatacaata	3180
caactttatg	ccaataaaat	ctaacttaat	tgcccagata	tttttgcata	tttagcaaca	3240
agaaaagctt	atcatttgac	tcaagtttta	tgctttctct	ttcttttcat	ttcctaggtta	3300
ctaattttta	tttttatgtg	gaaggagcag	tgtaaaagctt	acttgatttc	aatagtgtat	3360
ctcatagata	cagacaaggc	cgagagata	agctgttaaa	tagtgtttaa	tgttgatgtg	3420
gagagaaagg	tgtattactt	aaaaatacta	taccatatac	gttttgtata	tcattaaatc	3480
tttaaaagaa	attaaattta	ttcttggtta	aaaaaaaaaa	aaaaaaaaaa	aa	3532

<210> 8

<211> 475

<212> PRT

<213> Mus Musculus

<400> 8

-7-

Ile	Met	Ala	Tyr	His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile
1				5					10					15	
Leu	Ser	His	Ile	Val	Ser	Leu	Phe	Cys	Cys	Val	Cys	Lys	Arg	Arg	Lys
		20						25					30		
Lys	Asp	Lys	Thr	Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp
		35					40					45			
Gln	Lys	Lys	Leu	His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe
	50					55					60				
Asp	Glu	Lys	Asp	Asp	Lys	Phe	Asn	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg
65					70					75				80	
Val	Thr	Phe	Glu	Arg	Val	Glu	Gln	Met	Ser	Ile	Gln	Ile	Lys	Glu	Val
				85					90					95	
Gly	Asp	Arg	Val	Asn	Tyr	Ile	Lys	Arg	Ser	Leu	Gln	Ser	Leu	Asp	Ser
			100					105					110		
Gln	Ile	Gly	His	Leu	Gln	Asp	Leu	Ser	Ala	Leu	Thr	Val	Asp	Thr	Leu
		115					120					125			
Lys	Thr	Leu	Thr	Ala	Gln	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn
	130					135					140				
Glu	Ile	Thr	Arg	Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn	Leu
145					150					155				160	
Ile	Asp	Asp	Val	Pro	Val	Arg	Pro	Leu	Trp	Glu	Glu	Pro	Ser	Ala	Val
				165				170						175	
Asn	Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Arg	Glu	Ser	Asn	Asn
		180						185					190		
Pro	Phe	Leu	Cys	Asn	Ile	Phe	Met	Lys	Asp	Glu	Lys	Asp	Pro	Gln	Tyr
		195					200					205			
Asn	Leu	Phe	Gly	Gln	Asp	Leu	Pro	Val	Ile	Pro	Gln	Arg	Lys	Glu	Phe
	210					215					220				
Asn	Ile	Pro	Glu	Ala	Gly	Ser	Ser	Cys	Gly	Ala	Leu	Phe	Pro	Ser	Ala
225					230					235				240	
Val	Ser	Pro	Pro	Glu	Leu	Arg	Gln	Arg	Arg	His	Gly	Val	Glu	Met	Leu
				245					250					255	
Lys	Ile	Phe	Asn	Lys	Asn	Gln	Lys	Leu	Gly	Ser	Ser	Pro	Asn	Ser	Ser
			260					265					270		
Pro	His	Met	Ser	Ser	Pro	Pro	Thr	Lys	Phe	Ser	Val	Ser	Thr	Pro	Ser
		275					280					285			
Gln	Pro	Ser	Cys	Lys	Ser	His	Leu	Glu	Ser	Thr	Thr	Lys	Asp	Gln	Glu
	290					295					300				
Pro	Ile	Phe	Tyr	Lys	Ala	Ala	Glu	Gly	Asp	Asn	Ile	Glu	Phe	Gly	Ala
305					310					315					320
Phe	Val	Gly	His	Arg	Asp	Ser	Met	Asp	Leu	Gln	Arg	Phe	Lys	Glu	Thr
				325					330					335	
Ser	Asn	Lys	Ile	Arg	Glu	Leu	Leu	Ser	Asn	Asp	Thr	Pro	Glu	Asn	Thr
			340					345					350		
Leu	Lys	His	Val	Gly	Ala	Ala	Gly	Tyr	Ser	Glu	Cys	Cys	Lys	Thr	Ser
		355					360					365			
Thr	Ser	Leu	His	Ser	Val	Gln	Ala	Glu	Ser	Cys	Ser	Arg	Arg	Ala	Ser
	370					375					380				
Thr	Glu	Asp	Ser	Pro	Glu	Val	Asp	Ser	Lys	Ala	Ala	Leu	Leu	Pro	Asp
385					390					395				400	
Trp	Leu	Arg	Asp	Arg	Pro	Ser	Asn	Arg	Glu	Met	Pro	Ser	Glu	Gly	Gly
				405					410					415	
Thr	Leu	Asn	Gly	Leu	Ala	Ser	Pro	Phe	Lys	Pro	Val	Leu	Asp	Thr	Asn
			420					425					430		
Tyr	Tyr	Tyr	Ser	Ala	Val	Glu	Arg	Asn	Asn	Leu	Met	Arg	Leu	Ser	Gln
		435					440					445			
Ser	Ile	Pro	Phe	Val	Pro	Val	Pro	Pro	Arg	Gly	Glu	Pro	Val	Thr	Val
		450				455					460				
Tyr	Pro	Ser	Gly	Gly	Arg	Val	Leu	Pro	Val	Tyr					
465					470					475					

-8-

<210> 9
 <211> 5433
 <212> DNA
 <213> Mus Musculus

 <220>
 <221> unsure
 <222> (5094) ... (5094)
 <223> unknown

<400> 9
 ggctgaaaga gcctgagctg tgcctctcca ttccactgct gtggcaggggt cagaaatctt 60
 ggatagagaa aaccttttgc aaacgggaat gtatctttgt aattcctagc acgaaagact 120
 ctaacagggtg ttgctgtggc cagttcacca accagcatat cccccctctg ccaagtgcga 180
 caccagcaa aaatgaagag gaaagcaaac aggtggagac tcagcctgag aaatggctctg 240
 ttgccaagca caccagagc taccacaacag attcctatgg agttcttgaa ttccaggggtg 300
 gcggatattc caataaagcc atgtatatcc gtgtatccta tgacaccaag ccagactcac 360
 tgctccatct catgggtgaaa gattggcagc tggaaactcc caagctctta atatctgtgc 420
 atggaggcct ccagaacttt gagatgcagc ccaagctgaa acaagtcttt gggaaaggcc 480
 tgatcaaggc tgctatgacc accggggcct ggatcttcac cgggggtgtc agcacagggtg 540
 ttatcagcca cgtaggggat gccttgaaag accactcctc caagtccaga ggcggggtt 600
 gtgctatagg aattgctcca tggggcatcg tggagaataa ggaagacctg gttggaaagg 660
 atgtaacaag agtgaccag accatgtcca accctctaag taagctctct gtgctcaaca 720
 actcccacac ccacttcac ctggtgaca atggcaccct gggcaagtat ggcgccgagg 780
 tgaagctgcg aaggctgtcg gaaaagcaca tctccctcca gaagatcaac acaagactgg 840
 ggcagggcgt gccctcgctg ggtctcgctg tggagggggg ccctaactgt gtgtccatcg 900
 tcttggaaata cctgcaagaa gagcctccca tccctgtggt gatttgtgat ggcagcggac 960
 gtgctcgga catcctgtcc tttgcgcaca agtactgtga agaaggcggg ataataaatg 1020
 agtccctcag ggagcagctt ctagttaacca ttcagaaaac atttaattat aataaggcac 1080
 aatcacatca gctgtttgca attataatgg agtgcagtaa gaagaaagaa ctgcgtactg 1140
 tgttcagaat ggggttctgag ggccagcagg acatcgagat ggcaatttta actgccctgc 1200
 tgaaaggaac aaacgtatct gctccagatc agctgagctt ggcactgggt tggaaaccgcg 1260
 tggacatagc acgaagccag atctttgtct ttgggcccc cttggacgcc ctgggaagcc 1320
 tggcaccccc gacggacagc aaagccacgg agaaggaaag gaaagccacc atggccacca 1380
 ccaagggagg aagaggaaaa gggaaaggca agaagaaagg gaaagtgaag gaggaagtgg 1440
 aggaagaaac tgaccccccg aagatagagc tgctgaactg ggtgaatgct ttggagcaag 1500
 cgatgctaga tgcttttagt ttagatcgct tcgactttgt gaagctcctg attgaaaacg 1560
 gagtgaacat gcaacacttt ctgaccattc cgaggctgga ggagctctat aacacaagac 1620
 tgggtccacc aaacacactt catctgctgg tgagggatgt gaaaaagagc aaccttccgc 1680
 ctgattacca catcagcctc atagacactg ggctcgtgct ggagtacctc atgggaggag 1740
 cctaccgctg caactacact cggaaaaact ttcggaccct ttacaacaac ttgtttggac 1800
 caaagaggcc taaagctctt aaacttctgg gaatggaaga tgatgagcct ccagctaaag 1860
 ggaagaaaaa aaaaaaaaag aaaaaggagg aagagatcga cattgatgtg gacgaccctg 1920
 ccgtgagtcg gttccagtat ccttccacg agctgatggg gtgggcagtg ctgatgaaac 1980
 gccagaaaat ggcagtgttc ctctggcagc gagggggaaga gagcatggcc aaggccctgg 2040
 tggcctgcaa gctctacaag gccatggccc acgagtcctc cgagagtgat ctggtggatg 2100
 acatctccca ggacttgat aacaattcca aagacttcgg ccagcttgct ttggagttat 2160
 tagaccagtc ctataagcat gacgagcaga tcgctatgaa actcctgacc tacgagctga 2220
 aaaactggag caactcgacc tgctcaaac tggccgtggc agccaaacac cgggacttca 2280
 ttgctcacac ctgcagccag atgctgctga ccgatatgtg gatgggaaga ctgcggatgc 2340
 ggaagaaccc cggcctgaag gttatcatgg ggattcttct accccccacc atcttgtttt 2400
 tggaaatttc cacatatgat gatttctcgt atcaaacatc caaggaaaac gaggatggca 2460
 aagaaaaaga agaggaaaat acggatgcaa atgcagatgc tggctcaaga aagggggatg 2520
 aggagaacga gcataaaaaa cagagaagta ttcccatcgg aacaaagatc tgtgaattct 2580
 ataacgcgcc cattgtcaag ttctggtttt acacaatatc atacttgggc tacctgctgc 2640
 tgtttaacta cgtcactctg gtgcggatgg atggctggcc gtccctccag gattggatcg 2700
 tcatctccta catcgtgagc ctggcgttag agaagatacg agagatcctc atgtcagaac 2760
 caggcaaaact cagccagaaa atcaaagttt ggcttcagga gtactggaac atcacagatc 2820
 tcgtggccat ttccacattc atgattggag caattcttcg cctacagAAC cagccctaca 2880
 tgggctatgg ccgggtgatc tactgtgtgg atatcatctt ctggtacatc cgtgtcctgg 2940
 acatcttttg tgtcaacaag tatctggggc catacgtgat gatgattgga aagatgatga 3000

-9-

tcgacatgct	gtactttgtg	gtcatcatgc	tggtcgtgct	catgagtttc	ggagtagccc	3060
gtcaagccat	tctgcatcca	gaggagaagc	cctcttgga	actggcccga	aacatcttct	3120
acatgcccta	ctggatgac	tatggagagg	tgtttgaga	ccagatagac	ctctacgcca	3180
tggaaattaa	tcctccttgt	ggtgagaacc	tatatgatga	ggagggcaag	cggcttcctc	3240
cctgtatccc	cggcgccctg	ctcactccag	cactcatggc	gtgctatcta	ctggctcgcca	3300
acatcctgct	ggtgaacctg	ctgattgctg	tgttcaacaa	tactttcttt	gaagtaaaat	3360
caatatccaa	ccaggtgtgg	aagttccagc	gatatcagct	gattatgaca	tttcatgaca	3420
ggccagtcct	gccccaccg	atgatcattt	taagccacat	ctacatcatc	attatgcgtc	3480
tcagcggccg	ctgcaggaaa	aagagagaag	gggaccaaga	ggaacgggat	cgtggattga	3540
agctcttctt	tagcgacgag	gagctaaaga	ggctgcatga	gttcgaggag	cagtgcgtgc	3600
aggagcactt	ccggggagaag	gaggatgagc	agcagtcgtc	cagcgacgag	cgcattccggg	3660
tcactttctga	aagagttgaa	aatatgtcaa	tgaggttgga	agaaatcaat	gaaagagaaa	3720
cttttatgaa	aacttccctg	cagactgttg	accttcgact	tgctcagcta	gaagaattat	3780
ctaacagaat	ggtgaatgct	cttgaaaatc	ttgcgggaat	cgacaggtct	gacctgatcc	3840
aggcacggtc	ccgggcttct	tctgaatgtg	aggcaacgta	tcttctccgg	caaagcagca	3900
tcaatagcgc	tgatggctac	agcttgtatc	gatatcattt	taacggagaa	yagttattat	3960
ttgaggatac	atctctctcc	acgtcaccag	ggacaggagt	caggaaaaaa	acctgttccct	4020
tcctgtataaa	ggaagagaag	gacgtgaaaa	cgcacctagt	cccagaatgt	cagaacagtc	4080
ttcacctttc	actgggcaca	agcacatcag	caacccaga	tggcagtcac	cttgcaagt	4140
atgacttaaa	gaacgctgaa	gagtcaaaat	taggtccaga	tattgggatt	tcaaaggag	4200
atgatgaaag	acagacagac	tctaaaaaag	aagaaactat	ttccccaagt	ttaaataaaa	4260
cagatgtgat	acatggacag	gacaaatcag	atgttcaaaa	cactcagcta	acagtggaaa	4320
cgacaaatat	agaaggcact	atttcctatc	ccctggaaga	aacaaaaatt	acacgctatt	4380
tccccgatga	aacgatcaat	gcttgtaaaa	caatgaagtc	cagaagcttc	gtctattccc	4440
ggggaagaaa	gctggctcgg	ggggttaacc	aggatgtaga	gtacagttca	atcacggacc	4500
agcaattgac	gacggaatgg	caatgccaag	ttcaaaagat	cacgcgtctc	catagcacag	4560
atattcctta	cattgtgtcg	gaagctgcag	tgcaagctga	gcaaaaagag	cagtttgcag	4620
atatgcaaga	tgaacaccat	gtcgtgaag	caattcctcg	aatccctcgc	ttgtccctaa	4680
ccattactga	cagaaatggg	atggaaaact	tactgtctgt	gaagccagat	caaactttgg	4740
gattcccata	tctcagggtca	aaaagtttac	atggacatcc	taggaatgtg	aaatccattc	4800
agggaaagtt	agacagatct	ggacatgcca	gtagtgtaa	cagcttagta	attgtgtctg	4860
gaatgcagac	agaagaaaaa	aaggttaaga	aagagaaagc	ttccacagaa	actgaatgct	4920
agttctgttt	gtttctttta	tttttttttt	taacagtcag	aaaccacta	atgggtgtca	4980
tcttggtcca	tcctaaacac	atmtccaatt	tcctaaaaac	attttccctt	aaaaaatttt	5040
ggaaattcag	acttgattta	caatttaatg	cactaaaagt	agtattttgt	tagnatatgt	5100
tagtaggctt	agttttttca	gttgtagtag	tatcaaatga	aagtgatgat	actgtaacga	5160
agataaattg	gctaatacag	atacaagatt	atacaatctc	tttattactg	agggccacca	5220
aatagcctag	gaagtgcctt	cgagcactga	agtcaccatt	aggtcactca	agaagtaagc	5280
aactagctgg	gcacagtggc	tcatgcctgt	aatcctagca	ctttggggag	ccaaggcaga	5340
aagatagctt	gagtcacagga	gtttgagacc	agcctgggca	acatagtgat	accccatctc	5400
ttaaaaaaaa	aaaaaaaaaa	ctgcctctgt	gcc			5433

<210> 10
 <211> 1533
 <212> PRT
 <213> Mus Musculus

<400> 10

Met	Tyr	Ile	Arg	Val	Ser	Tyr	Asp	Thr	Lys	Pro	Asp	Ser	Leu	Leu	His
1				5					10					15	
Leu	Met	Val	Lys	Asp	Trp	Gln	Leu	Glu	Leu	Pro	Lys	Leu	Leu	Ile	Ser
			20					25					30		
Val	His	Gly	Gly	Leu	Gln	Asn	Phe	Glu	Met	Gln	Pro	Lys	Leu	Lys	Gln
		35					40					45			
Val	Phe	Gly	Lys	Gly	Leu	Ile	Lys	Ala	Ala	Met	Thr	Thr	Gly	Ala	Trp
	50					55				60					
Ile	Phe	Thr	Gly	Gly	Val	Ser	Thr	Gly	Val	Ile	Ser	His	Val	Gly	Asp
65					70					75				80	
Ala	Leu	Lys	Asp	His	Ser	Ser	Lys	Ser	Arg	Gly	Arg	Val	Cys	Ala	Ile
				85					90				95		
Gly	Ile	Ala	Pro	Trp	Gly	Ile	Val	Glu	Asn	Lys	Glu	Asp	Leu	Val	Gly

			100					105					110		
Lys	Asp	Val	Thr	Arg	Val	Tyr	Gln	Thr	Met	Ser	Asn	Pro	Leu	Ser	Lys
		115					120					125			
Leu	Ser	Val	Leu	Asn	Asn	Ser	His	Thr	His	Phe	Ile	Leu	Ala	Asp	Asn
	130					135					140				
Gly	Thr	Leu	Gly	Lys	Tyr	Gly	Ala	Glu	Val	Lys	Leu	Arg	Arg	Leu	Leu
145					150					155					160
Glu	Lys	His	Ile	Ser	Leu	Gln	Lys	Ile	Asn	Thr	Arg	Leu	Gly	Gln	Gly
				165					170					175	
Val	Pro	Leu	Val	Gly	Leu	Val	Val	Glu	Gly	Gly	Pro	Asn	Val	Val	Ser
			180					185					190		
Ile	Val	Leu	Glu	Tyr	Leu	Gln	Glu	Glu	Pro	Pro	Ile	Pro	Val	Val	Ile
		195					200					205			
Cys	Asp	Gly	Ser	Gly	Arg	Ala	Ser	Asp	Ile	Leu	Ser	Phe	Ala	His	Lys
	210					215						220			
Tyr	Cys	Glu	Glu	Gly	Gly	Ile	Ile	Asn	Glu	Ser	Leu	Arg	Glu	Gln	Leu
225					230					235					240
Leu	Val	Thr	Ile	Gln	Lys	Thr	Phe	Asn	Tyr	Asn	Lys	Ala	Gln	Ser	His
				245					250					255	
Gln	Leu	Phe	Ala	Ile	Ile	Met	Glu	Cys	Met	Lys	Lys	Lys	Glu	Leu	Val
			260					265					270		
Thr	Val	Phe	Arg	Met	Gly	Ser	Glu	Gly	Gln	Gln	Asp	Ile	Glu	Met	Ala
		275					280					285			
Ile	Leu	Thr	Ala	Leu	Leu	Lys	Gly	Thr	Asn	Val	Ser	Ala	Pro	Asp	Gln
		290				295					300				
Leu	Ser	Leu	Ala	Leu	Ala	Trp	Asn	Arg	Val	Asp	Ile	Ala	Arg	Ser	Gln
305					310					315					320
Ile	Phe	Val	Phe	Gly	Pro	His	Trp	Thr	Pro	Leu	Gly	Ser	Leu	Ala	Pro
				325					330					335	
Pro	Thr	Asp	Ser	Lys	Ala	Thr	Glu	Lys	Glu	Lys	Lys	Pro	Pro	Met	Ala
			340					345					350		
Thr	Thr	Lys	Gly	Gly	Arg	Gly	Lys	Gly	Lys	Gly	Lys	Lys	Lys	Gly	Lys
		355					360					365			
Val	Lys	Glu	Glu	Val	Glu	Glu	Glu	Thr	Asp	Pro	Arg	Lys	Ile	Glu	Leu
		370				375					380				
Leu	Asn	Trp	Val	Asn	Ala	Leu	Glu	Gln	Ala	Met	Leu	Asp	Ala	Leu	Val
385					390					395					400
Leu	Asp	Arg	Val	Asp	Phe	Val	Lys	Leu	Leu	Ile	Glu	Asn	Gly	Val	Asn
				405					410					415	
Met	Gln	His	Phe	Leu	Thr	Ile	Pro	Arg	Leu	Glu	Glu	Leu	Tyr	Asn	Thr
			420					425					430		
Arg	Leu	Gly	Pro	Pro	Asn	Thr	Leu	His	Leu	Leu	Val	Arg	Asp	Val	Lys
		435					440					445			
Lys	Ser	Asn	Leu	Pro	Pro	Asp	Tyr	His	Ile	Ser	Leu	Ile	Asp	Ile	Gly
		450													

-11-

Asp	Asp	Ile	Ser	Gln	Asp	Leu	Asp	Asn	Asn	Ser	Lys	Asp	Phe	Gly	Gln		
		595					600					605					
Leu	Ala	Leu	Glu	Leu	Leu	Asp	Gln	Ser	Tyr	Lys	His	Asp	Glu	Gln	Ile		
	610					615					620						
Ala	Met	Lys	Leu	Leu	Thr	Tyr	Glu	Leu	Lys	Asn	Trp	Ser	Asn	Ser	Thr		
625					630					635					640		
Cys	Leu	Lys	Leu	Ala	Val	Ala	Ala	Lys	His	Arg	Asp	Phe	Ile	Ala	His		
				645					650					655			
Thr	Cys	Ser	Gln	Met	Leu	Leu	Thr	Asp	Met	Trp	Met	Gly	Arg	Leu	Arg		
			660					665					670				
Met	Arg	Lys	Asn	Pro	Gly	Leu	Lys	Val	Ile	Met	Gly	Ile	Leu	Leu	Pro		
		675					680					685					
Pro	Thr	Ile	Leu	Phe	Leu	Glu	Phe	Arg	Thr	Tyr	Asp	Asp	Phe	Ser	Tyr		
	690					695					700						
Gln	Thr	Ser	Lys	Glu	Asn	Glu	Asp	Gly	Lys	Glu	Lys	Glu	Glu	Glu	Asn		
705					710					715					720		
Thr	Asp	Ala	Asn	Ala	Asp	Ala	Gly	Ser	Arg	Lys	Gly	Asp	Glu	Glu	Asn		
				725					730						735		
Glu	His	Lys	Lys	Gln	Arg	Ser	Ile	Pro	Ile	Gly	Thr	Lys	Ile	Cys	Glu		
				740					745					750			
Phe	Tyr	Asn	Ala	Pro	Ile	Val	Lys	Phe	Trp	Phe	Tyr	Thr	Ile	Ser	Tyr		
		755					760						765				
Leu	Gly	Tyr	Leu	Leu	Leu	Phe	Asn	Tyr	Val	Ile	Leu	Val	Arg	Met	Asp		
	770					775					780						
Gly	Trp	Pro	Ser	Leu	Gln	Glu	Trp	Ile	Val	Ile	Ser	Tyr	Ile	Val	Ser		
785					790					795					800		
Leu	Ala	Leu	Glu	Lys	Ile	Arg	Glu	Ile	Leu	Met	Ser	Glu	Pro	Gly	Lys		
				805					810					815			
Leu	Ser	Gln	Lys	Ile	Lys	Val	Trp	Leu	Gln	Glu	Tyr	Trp	Asn	Ile	Thr		
			820					825					830				
Asp	Leu	Val	Ala	Ile	Ser	Thr	Phe	Met	Ile	Gly	Ala	Ile	Leu	Arg	Leu		
		835					840					845					
Gln	Asn	Gln	Pro	Tyr	Met	Gly	Tyr	Gly	Arg	Val	Ile	Tyr	Cys	Val	Asp		
	850					855					860						
Ile	Ile	Phe	Trp	Tyr	Ile	Arg	Val	Leu	Asp	Ile	Phe	Gly	Val	Asn	Lys		
865					870					875					880		
Tyr	Leu	Gly	Pro	Tyr	Val	Met	Met	Ile	Gly	Lys	Met	Met	Ile	Asp	Met		
				885					890					895			
Leu	Tyr	Phe	Val	Ile	Met	Leu	Val	Val	Leu	Met	Ser	Phe	Gly	Val			
			900					905					910				
Ala	Arg	Gln	Ala	Ile	Leu	His	Pro	Glu	Glu	Lys	Pro	Ser	Trp	Lys	Leu		
			915				920						925				
Ala	Arg	Asn	Ile	Phe	Tyr	Met	Pro	Tyr	Trp	Met	Ile	Tyr	Gly	Glu	Val		
						935					940						
Phe	Ala	Asp	Gln	Ile	Asp	Leu	Tyr	Ala	Met	Glu	Ile	Asn	Pro	Pro	Cys		
945					950					955					960		
Gly	Glu	Asn	Leu	Tyr	Asp	Glu	Glu	Gly	Lys	Arg	Leu	Pro	Pro	Cys	Ile		
				965					970					975			
Pro	Gly	Ala	Trp	Leu	Thr	Pro	Ala	Leu	Met	Ala	Cys	Tyr	Leu	Leu	Val		
			980					985					990				
Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Val	Phe	Asn	Asn	Thr		
							1000					1005					
Phe	Phe	Glu	Val	Lys	Ser	Ile	Ser	Asn	Gln	Val	Trp	Lys	Phe	Gln	Arg		
	1010					1015					1020						
Tyr	Gln	Leu	Ile	Met	Thr	Phe	His	Asp	Arg	Pro	Val	Leu	Pro	Pro	Pro		
1025					1030					1035					104		
Met	Ile	Ile	Leu	Ser	His	Ile	Tyr	Ile	Ile	Ile	Met	Arg	Leu	Ser	Gly		
				1045					1050					1055			
Arg	Cys	Arg	Lys	Lys	Arg	Glu	Gly	Asp	Gln	Glu	Glu	Arg	Asp	Arg	Gly		
			1060					1065					1070				
Leu	Lys	Leu	Phe	Leu	Ser	Asp	Glu	Glu	Leu	Lys	Arg	Leu	His	Glu	Phe		

-12-

1075					1080					1085					
Glu	Glu	Gln	Cys	Val	Gln	Glu	His	Phe	Arg	Glu	Lys	Glu	Asp	Glu	Gln
1090					1095					1100					
Gln	Ser	Ser	Ser	Asp	Glu	Arg	Ile	Arg	Val	Thr	Ser	Glu	Arg	Val	Glu
1105					1110					1115					112
Asn	Met	Ser	Met	Arg	Leu	Glu	Glu	Ile	Asn	Glu	Arg	Glu	Thr	Phe	Met
1125					1130					1135					
Lys	Thr	Ser	Leu	Gln	Thr	Val	Asp	Leu	Arg	Leu	Ala	Gln	Leu	Glu	Glu
1140					1145					1150					
Leu	Ser	Asn	Arg	Met	Val	Asn	Ala	Leu	Glu	Asn	Leu	Ala	Gly	Ile	Asp
1155					1160					1165					
Arg	Ser	Asp	Leu	Ile	Gln	Ala	Arg	Ser	Arg	Ala	Ser	Ser	Glu	Cys	Glu
1170					1175					1180					
Ala	Thr	Tyr	Leu	Leu	Arg	Gln	Ser	Ser	Ile	Asn	Ser	Ala	Asp	Gly	Tyr
1185					1190					1195					120
Ser	Leu	Tyr	Arg	Tyr	His	Phe	Asn	Gly	Glu	Glu	Leu	Leu	Phe	Glu	Asp
1205					1210					1215					
Thr	Ser	Leu	Ser	Thr	Ser	Pro	Gly	Thr	Gly	Val	Arg	Lys	Lys	Thr	Cys
1220					1225					1230					
Ser	Phe	Arg	Ile	Lys	Glu	Glu	Lys	Asp	Val	Lys	Thr	His	Leu	Val	Pro
1235					1240					1245					
Glu	Cys	Gln	Asn	Ser	Leu	His	Leu	Ser	Leu	Gly	Thr	Ser	Thr	Ser	Ala
1250					1255					1260					
Thr	Pro	Asp	Gly	Ser	His	Leu	Ala	Val	Asp	Asp	Leu	Lys	Asn	Ala	Glu
1265					1270					1275					128
Glu	Ser	Lys	Leu	Gly	Pro	Asp	Ile	Gly	Ile	Ser	Lys	Glu	Asp	Asp	Glu
1285					1290					1295					
Arg	Gln	Thr	Asp	Ser	Lys	Lys	Glu	Glu	Thr	Ile	Ser	Pro	Ser	Leu	Asn
1300					1305					1310					
Lys	Thr	Asp	Val	Ile	His	Gly	Gln	Asp	Lys	Ser	Asp	Val	Gln	Asn	Thr
1315					1320					1325					
Gln	Leu	Thr	Val	Glu	Thr	Thr	Asn	Ile	Glu	Gly	Thr	Ile	Ser	Tyr	Pro
1330					1335					1340					
Leu	Glu	Glu	Thr	Lys	Ile	Thr	Arg	Tyr	Phe	Pro	Asp	Glu	Thr	Ile	Asn
1345					1350					1355					136
Ala	Cys	Lys	Thr	Met	Lys	Ser	Arg	Ser	Phe	Val	Tyr	Ser	Arg	Gly	Arg
1365					1370					1375					
Lys	Leu	Val	Gly	Gly	Val	Asn	Gln	Asp	Val	Glu	Tyr	Ser	Ser	Ile	Thr
1380					1385					1390					
Asp	Gln	Gln	Leu	Thr	Thr	Glu	Trp	Gln	Cys	Gln	Val	Gln	Lys	Ile	Thr
1395					1400					1405					
Arg	Ser	His	Ser	Thr	Asp	Ile	Pro	Tyr	Ile	Val	Ser	Glu	Ala	Ala	Val
1410					1415					1420					
Gln	Ala	Glu	Gln	Lys	Glu	Gln	Phe	Ala	Asp	Met	Gln	Asp	Glu	His	His
1425					1430					1435					144
Val	Ala	Glu	Ala	Ile	Pro	Arg	Ile	Pro	Arg	Leu	Ser	Leu	Thr	Ile	Thr
1445					1450					1455					
Asp	Arg	Asn	Gly	Met	Glu	Asn	Leu	Leu	Ser	Val	Lys	Pro	Asp	Gln	Thr
1460					1465					1470					
Leu	Gly	Phe	Pro	Ser	Leu	Arg	Ser	Lys	Ser	Leu	His	Gly	His	Pro	Arg
1475					1480					1485					
Asn	Val	Lys	Ser	Ile	Gln	Gly	Lys	Leu	Asp	Arg	Ser	Gly	His	Ala	Ser
1490					1495					1500					
Ser	Val	Ser	Ser	Leu	Val	Ile	Val	Ser	Gly	Met	Thr	Ala	Glu	Glu	Lys
1505					1510					1515					152
Lys	Val	Lys	Lys	Glu	Lys	Ala	Ser	Thr	Glu	Thr	Glu	Cys			
1525					1530										

<210> 11
 <211> 6220
 <212> DNA

<213> Homo Sapiens

<400> 11

tgtgcagaat	tgtacagttg	cgaaaccatg	tcgctggcag	ctggtgctgg	cggtggagac	60
ttccctgtgc	ggtgctcagt	gcatctgcac	ccgtggggga	gggagctctt	tctctggccc	120
tgcagtcacc	tgaggttggt	accattatga	acggccgctg	ggacccccgc	atgtgcatgt	180
actccccag	agtgtccggg	ggccccagcc	aagggacaca	tctcacgcag	ctgggaacat	240
gtgcaggctg	atgaagagaa	ccggatgagg	gcttcacatg	aggaagcatg	tggccaggtc	300
ctctcagaac	atcagcctca	tcttcctgtc	tctgatctat	ttcaccaacc	accccatgtg	360
tctctagaac	cccagtgtag	cgagctggag	ataggactgt	cctgagggca	gcaggcctgg	420
ttgcagctgg	cgtgggggtc	tcagaatgga	gccctcagcc	ctgaggaaag	ctggctcgga	480
gcaggaggag	ggctttgagg	ggctgcccag	aagggtcact	gacctgggga	tggctcccaa	540
tctccggcgc	agcaacagca	gcctcttcaa	gagctggagg	ctacagtgcc	ccttcggcaa	600
caatgacaag	caagaaagcc	tcagttcgtg	gaftcctgaa	aacatcaaga	agaaagaatg	660
cgtgtathtt	gtggaaagtt	ccaaactgtc	tgatgctggg	aaggtggtgt	gtcagtgtgg	720
ctacacgcat	gagcagcact	tggaggaggc	taccaagccc	cacaccttcc	agggcacaca	780
gtgggaccca	aagaaacatg	tccaggagat	gccaaccgat	gcctttggcg	acatcgtctt	840
cacgggcctg	agccagaagg	tgaaaaagta	cgtccgagtc	tcccaggaca	cgccctccag	900
cgtgatctac	cacctcatga	cccagcactg	ggggtggagc	gtccccaatc	tcttgatctc	960
ggtgaccggg	ggggccaaga	acttcaacat	gaagccgcgg	ctgaagagca	ttttccgcag	1020
aggcctggtc	aaggtggctc	agaccacagg	ggcctggatc	atcacagggg	ggtcccacac	1080
cggcgctcatg	aagcaggtag	gcgaggcggt	gcgggacttc	agcctgagca	gcagctacaa	1140
ggaaggcgag	ctcatcacca	tcggagtcgc	cacctggggc	actgtccacc	gccgcgaggg	1200
cctgatccat	cccacgggca	gcttccccgc	cgagtacata	ctggatgagg	atggccaagg	1260
gaacctgacc	tgcttagaca	gcaaccactc	tcacttcate	ctcgtggacg	acgggaccca	1320
cggccagtac	ggggtggaga	ttcctctgag	gaccaggtcg	gagaagttca	tatcggagca	1380
gaccaaggaa	agaggagggtg	tggccatcaa	gatccccatc	gtgtgctgtg	tgtcgagggg	1440
cggcccgggc	acgttgca	ccatcgacaa	cgccaccacc	aacggcaccc	cctgtgtggt	1500
tgtggaggggc	tcgggcccgc	tggccgacgt	cattgcccag	gtggccaacc	tgctgtcttc	1560
ggacatcact	atctccctga	tccagcagaa	actgagcgtg	ttcttccagg	agatgtttga	1620
gaccttcacg	gaaagcagga	ttgtcgagtg	gacaaaaaag	atccaagata	ttgtccggag	1680
gcggcagctg	ctgactgtct	tccgggaagg	caaggatggt	cagcaggacg	tggatgtggc	1740
catcttgcat	gccttgctga	aagcctcacg	gaccaaagac	cactttggcc	acgagaactg	1800
ggaccaccag	ctgaaactgg	cagtggcatg	gaatcgctg	gacattgccc	gcagtggagt	1860
cttcatggat	gagtggcagt	ggaagccttc	agatctgcac	cccacgatga	cagctgcact	1920
catctccaac	aagcctgagt	ttgtgaagct	cttcttgga	aacggggtgc	agctgaagga	1980
gtttgtcacc	tgggacacct	tgctctacct	gtacgagaac	ctggaccctt	cctgcctgtt	2040
ccacagcaag	ctgcaaaaagg	tgctggtgga	ggatcccag	cgcccggctt	gcgcgcccgc	2100
ggcgcccgc	ctgcagatgc	accacgtggc	ccaggtgctg	cgggagctgc	tgggggactt	2160
cagcagccgc	ctttatcccc	ggccccggca	caacgaccgc	ctgcggctcc	tgctgcccgt	2220
tccccacgtc	aagctcaacg	tgcaaggagt	gagcctccgg	tccctctaca	agcgttcttc	2280
aggccatgtg	accttcacca	tggaccccat	ccgtgacctt	ctcatttggg	ccattgtcca	2340
gaaccgtcgg	gagctggcag	gaatcatctg	ggctcagagc	caggactgca	tcgcagcggc	2400
cttggcctgc	agcaagatcc	tgaaggaaact	gtccaaggag	gaggaggaca	cggacagctc	2460
ggaggagatg	ctggcgctgg	cggaggagta	tgagcacaga	gccatcgggg	tcttcaccga	2520
gtgctaccgg	aaggacgaag	agagagccca	gaaactgctc	acccgcgtgt	ccgaggcctg	2580
ggggaagacc	acctgcctgc	agctcgccct	ggaggccaag	gacatgaagt	ttgtgtctca	2640
cgggggcate	caggccttcc	tgaccaaggt	gtggtggggc	cagctctccg	tggacaatgg	2700
gctgtggcgt	gtgacctgt	gcatgctggc	cttcccgcgtg	ctcctcaccg	gcctcatctc	2760
cttcaggagg	aagaggctgc	aggatgtggg	caccccgcgc	gcccgcgccc	gtgccttctt	2820
caccgcaccc	gtggtggtct	tccacctgaa	cactctctcc	tacttcgcct	tctctgcctt	2880
gttcgcctac	gtgctcatgg	tggacttcca	gcctgtgccc	tcttgggtgcg	agtgtgccat	2940
ctacctctgg	ctcttctcct	tgggtgtcga	ggagatgcgg	cagctcttct	atgacctga	3000
cgagtgcggg	ctgatgaaga	aggcagcctt	gtacttcagt	gacttctgga	ataagctgga	3060
cgtcggcgca	atcttgctct	tcgtggcagg	gctgacctgc	aggctcatcc	cggcgacgct	3120
gtaccccggg	cgcgtcatcc	tctctctgga	cttcatcctg	ttctgcctcc	ggctcatgca	3180
catttttacc	atcagtaaga	cgtgggggcc	caagatcatc	attgtgaagc	ggatgatgaa	3240
ggacgtcttc	ttcttctctc	ttctgtgtgc	tgtgtgggtg	gtgtccttcg	gggtggccaa	3300
gcaggccatc	ctcatccaca	acgagcgccg	gtggactgtg	ctgttccgag	gggcgtcta	3360
ccactcttac	ctcaccatct	tcgggcagat	cccgggctac	atcgacggtg	tgaacttcaa	3420
cccggagcac	tgcagcccca	atggcaccga	cccctacaag	cctaagtgcc	ccgagagcga	3480

-14-

cgcgacgcag	cagaggccgg	ccttccctga	gtggctgacg	gtcctcctac	tctgcctcta	3540
cctgctcttc	accaacatcc	tgctgctcaa	cctcctcctc	gccatgttca	actacacctt	3600
ccagcaggtg	caggagcaca	cggaccagat	ttggaagttc	cagcgccatg	acctgatcga	3660
ggagtaccac	ggccgccccg	ccgcgcgcgc	ccccttcate	ctcctcagcc	acctgcagct	3720
cttcatcaag	aggggtggtc	tgaagactcc	ggccaagagg	cacaagcagc	tcaagaacaa	3780
gctggagaag	aacgaggagg	cggccctgct	atcctgggag	atctacctga	aggagaacta	3840
cctccagaac	cgacagttcc	agcaaaaagca	gcggccccgag	cagaagatcg	aggacatcag	3900
caataagggt	gacgccatgg	tggacctgct	ggacctggac	ccactgaaga	ggtcgggctc	3960
catggagcag	aggttggcct	ccctggagga	gcaggtggcc	cagacagccc	gagccctgca	4020
ctggatcgtg	aggacgctgc	gggccagcgg	cttcagctcg	gaggcggacg	tccccactct	4080
ggcctcccag	aaggccgcgg	aggagccgga	tgctgagccg	ggaggcagga	agaagacgga	4140
ggagccgggc	gacagctacc	acgtgaatgc	ccggcacctc	ctctacccca	actgccctgt	4200
cacgcgcttc	cccgtgcccc	acgagaaggt	gccctgggag	acggagtctc	tgatctatga	4260
cccacccttt	tacacggcag	agaggaagga	cgcgccgcgc	atggacccca	tgggagacac	4320
cctggagcca	ctgtccacga	tccagtacaa	cgtggtggat	ggcctgaggg	accgccggag	4380
cttccacggg	ccgtacacag	tgcaggccgg	gttgccccctg	aacccccatg	gccgcacagg	4440
actgcgtggg	cgcgggagcc	tcagctgctt	cggacccaac	cacacgctgt	acccccatggt	4500
cacgcggtgg	aggcggaacg	aggatggagc	catctgcagg	aagagcataa	agaagatgct	4560
ggaagtgtctg	gtggtgaagc	tccctctctc	cgagcactgg	gccctgcctg	ggggctcccg	4620
ggagccaggg	gagatgctac	ctcggaagct	gaagcggatc	ctccggcagg	agcactggcc	4680
gtcttttgaa	aacttgctga	agtgcggcat	ggaggtgtac	aaaggctaca	tggtgacccc	4740
gaggaacacg	gacaatgcct	ggatcgagac	ggtggccgtc	agcgtccact	tccaggacca	4800
gaatgacgtg	gagctgaaca	ggctgaactc	taacctgcac	gcctgcgact	cgggggcctc	4860
catccgatgg	caggtggtgg	acaggcgcct	cccactctat	gcgaaccaca	agaccctcct	4920
ccagaaggca	gccgctgagt	tcggggctca	ctactgactg	tgccctcagg	ctggggcggt	4980
ccagtccata	gacgttcccc	ccagaaacca	gggttctctc	ctcctgagcc	tggccaggac	5040
tcaggctgtt	cctgggccct	gcacatgatg	gggttggtg	gacccagtgc	cctccacggc	5100
tgccgcaagt	ctgctgcaga	tgacctcatg	aactggaagg	ggtcaagggt	acccggggagg	5160
agagctcaag	acagggcaca	ggctactcag	agctgagggg	cccctgggac	ccttggccat	5220
caggcgaggg	gctgggcctg	tgcagctggg	cccttgcca	gagtccactc	ccttcctggc	5280
tgtgtcacc	cgagcagctc	atccaccatg	gaggtcattg	gcctgaggca	agttccccgg	5340
agagtcggga	tccccctgtg	ccccctcagg	cctatgtctg	tgaggaaggg	gccctgccac	5400
tctccccaa	agggcctcca	tgtttgcagg	tgctcaaca	tgagccttg	cctggcctgg	5460
gctaggggca	ctgtctgaac	tcctgactgt	caggataaac	tccgtggggg	tacaggagcc	5520
cagacaaagc	ccaggcctgt	caagagacgc	agaggggccc	tgccagggtt	ggccccaggg	5580
accctgggac	gaggctgcag	aagctctccc	tccctactcc	ctgggagcca	cgtgtggcc	5640
atgtggccag	ggacggcatg	agcaggaggc	ggggacgtgg	gggccttctg	gtttggtgtc	5700
aacagctcac	aggagcgtga	accatgaggg	ccctcaggag	gggaacgtgg	taaaacccaa	5760
gacattaaat	ctgccatctc	aggcctggct	ggctcttctg	tgctttccac	aaataaagtt	5820
cctgacacgt	ccaggggccag	gggtgtgtg	acggctgcct	gaagttctcc	tcgatcccc	5880
ggtgagcttc	ctgcagcctg	tggtgtcct	gcagccctc	agccctaccc	ccaagtttct	5940
cctctgaccc	atcagctccc	tgtcttcatt	ttcctaaacc	tggtctccag	catcgtcccc	6000
aagccaccca	ggccaggatg	caggcatcca	catgccctcc	tccttggtt	cccctgcgtg	6060
gtggtgccaa	tgtgccctgg	cacccctgca	gaggctccgg	atggagcctg	gggtgcctg	6120
gccactgagc	actggccgag	gtgatgcccc	cccttccctg	gacaggcctc	tgtcttccac	6180
ctgacccaaa	gctctctagc	caccccttg	tccccagtat			6220

<210> 12

<211> 1503

<212> PRT

<213> Homo Sapiens

<400> 12

Met	Glu	Pro	Ser	Ala	Leu	Arg	Lys	Ala	Gly	Ser	Glu	Gln	Glu	Glu	Gly
1				5				10						15	
Phe	Glu	Gly	Leu	Pro	Arg	Arg	Val	Thr	Asp	Leu	Gly	Met	Val	Ser	Asn
			20					25					30		
Leu	Arg	Arg	Ser	Asn	Ser	Ser	Leu	Phe	Lys	Ser	Trp	Arg	Leu	Gln	Cys
			35				40					45			
Pro	Phe	Gly	Asn	Asn	Asp	Lys	Gln	Glu	Ser	Leu	Ser	Ser	Trp	Ile	Pro
50						55					60				

-15-

Glu	Asn	Ile	Lys	Lys	Lys	Glu	Cys	Val	Tyr	Phe	Val	Glu	Ser	Ser	Lys	65	70	75	80
Leu	Ser	Asp	Ala	Gly	Lys	Val	Val	Cys	Gln	Cys	Gly	Tyr	Thr	His	Glu				
				85					90					95					
Gln	His	Leu	Glu	Ala	Thr	Lys	Pro	His	Thr	Phe	Gln	Gly	Thr	Gln					
			100					105					110						
Trp	Asp	Pro	Lys	Lys	His	Val	Gln	Glu	Met	Pro	Thr	Asp	Ala	Phe	Gly				
		115						120				125							
Asp	Ile	Val	Phe	Thr	Gly	Leu	Ser	Gln	Lys	Val	Lys	Lys	Tyr	Val	Arg				
		130					135				140								
Val	Ser	Gln	Asp	Thr	Pro	Ser	Ser	Val	Ile	Tyr	His	Leu	Met	Thr	Gln				
					150					155					160				
His	Trp	Gly	Leu	Asp	Val	Pro	Asn	Leu	Leu	Ile	Ser	Val	Thr	Gly	Gly				
				165					170						175				
Ala	Lys	Asn	Phe	Asn	Met	Lys	Pro	Arg	Leu	Lys	Ser	Ile	Phe	Arg	Arg				
			180					185					190						
Gly	Leu	Val	Lys	Val	Ala	Gln	Thr	Thr	Gly	Ala	Trp	Ile	Ile	Thr	Gly				
		195						200				205							
Gly	Ser	His	Thr	Gly	Val	Met	Lys	Gln	Val	Gly	Glu	Ala	Val	Arg	Asp				
		210				215				220									
Phe	Ser	Leu	Ser	Ser	Ser	Tyr	Lys	Glu	Gly	Glu	Leu	Ile	Thr	Ile	Gly				
					230					235					240				
Val	Ala	Thr	Trp	Gly	Thr	Val	His	Arg	Arg	Glu	Gly	Leu	Ile	His	Pro				
				245					250					255					
Thr	Gly	Ser	Phe	Pro	Ala	Glu	Tyr	Ile	Leu	Asp	Glu	Asp	Gly	Gln	Gly				
			260					265					270						
Asn	Leu	Thr	Cys	Leu	Asp	Ser	Asn	His	Ser	His	Phe	Ile	Leu	Val	Asp				
		275					280					285							
Asp	Gly	Thr	His	Gly	Gln	Tyr	Gly	Val	Glu	Ile	Pro	Leu	Arg	Thr	Arg				
		290				295					300								
Leu	Glu	Lys	Phe	Ile	Ser	Glu	Gln	Thr	Lys	Glu	Arg	Gly	Gly	Val	Ala				
				310						315					320				
Ile	Lys	Ile	Pro	Ile	Val	Cys	Val	Val	Leu	Glu	Gly	Gly	Pro	Gly	Thr				
				325					330					335					
Leu	His	Thr	Ile	Asp	Asn	Ala	Thr	Thr	Asn	Gly	Thr	Pro	Cys	Val	Val				
			340					345					350						
Val	Glu	Gly	Ser	Gly	Arg	Val	Ala	Asp	Val	Ile	Ala	Gln	Val	Ala	Asn				
		355					360					365							
Leu	Pro	Val	Ser	Asp	Ile	Thr	Ile	Ser	Leu	Ile	Gln	Gln	Lys	Leu	Ser				
		370				375					380								
Val	Phe	Phe	Gln	Glu	Met	Phe	Glu	Thr	Phe	Thr	Glu	Ser	Arg	Ile	Val				
				390						395					400				
Glu	Trp	Thr	Lys	Lys	Ile	Gln	Asp	Ile	Val	Arg	Arg	Arg	Gln	Leu	Leu				
				405					410					415					
Thr	Val	Phe	Arg	Glu	Gly	Lys	Asp	Gly	Gln	Gln	Asp	Val	Asp	Val	Ala				
			420					425					430						
Ile	Leu	Gln	Ala	Leu	Leu	Lys	Ala	Ser	Arg	Ser	Gln	Asp	His	Phe	Gly				
			435				440					445							
His	Glu	Asn	Trp	Asp	His	Gln	Leu	Lys	Leu	Ala	Val	Ala	Trp	Asn	Arg				
		450				455					460								
Val	Asp	Ile	Ala	Arg	Ser	Glu	Ile	Phe	Met	Asp	Glu	Trp	Gln	Trp	Lys				
				470					475					480					
Pro	Ser	Asp	Leu	His	Pro	Thr	Met	Thr	Ala	Ala	Leu	Ile	Ser	Asn	Lys				
				485					490					495					
Pro	Glu	Phe	Val	Lys	Leu	Phe	Leu	Glu	Asn	Gly	Val	Gln	Leu	Lys	Glu				
			500					505					510						
Phe	Val	Thr	Trp	Asp	Thr	Leu	Leu	Tyr	Leu	Tyr	Glu	Asn	Leu	Asp	Pro				
			515					520				525							
Ser	Cys	Leu	Phe	His	Ser	Lys	Leu	Gln	Lys	Val	Leu	Val	Glu	Asp	Pro				
		530				535					540								
Glu	Arg	Pro	Ala	Cys	Ala	Pro	Ala	Ala	Pro	Arg	Leu	Gln	Met	His	His				

-16-

545					550					555					560
Val	Ala	Gln	Val	Leu 565	Arg	Glu	Leu	Leu	Gly 570	Asp	Phe	Thr	Gln	Pro 575	Leu
Tyr	Pro	Arg	Pro 580	Arg	His	Asn	Asp	Arg 585	Leu	Arg	Leu	Leu	Leu 590	Pro	Val
Pro	His	Val 595	Lys	Leu	Asn	Val	Gln 600	Gly	Val	Ser	Leu	Arg 605	Ser	Leu	Tyr
Lys	Arg 610	Ser	Ser	Gly	His 615	Val	Thr	Phe	Thr	Met	Asp 620	Pro	Ile	Arg	Asp
Leu 625	Leu	Ile	Trp	Ala 630	Ile	Val	Gln	Asn	Arg	Arg 635	Glu	Leu	Ala	Gly	Ile 640
Ile	Trp	Ala	Gln	Ser 645	Gln	Asp	Cys	Ile	Ala 650	Ala	Ala	Leu	Ala	Cys 655	Ser
Lys	Ile	Leu	Lys 660	Glu	Leu	Ser	Lys	Glu 665	Glu	Glu	Asp	Thr	Asp 670	Ser	Ser
Glu	Glu	Met 675	Leu	Ala	Leu	Ala	Glu 680	Glu	Tyr	Glu	His	Arg 685	Ala	Ile	Gly
Val	Phe 690	Thr	Glu	Cys	Tyr	Arg 695	Lys	Asp	Glu	Glu	Arg 700	Ala	Gln	Lys	Leu
Leu 705	Thr	Arg	Val	Ser	Glu 710	Ala	Trp	Gly	Lys	Thr 715	Thr	Cys	Leu	Gln	Leu 720
Ala	Leu	Glu	Ala	Lys 725	Asp	Met	Lys	Phe	Val 730	Ser	His	Gly	Gly	Ile 735	Gln
Ala	Phe	Leu	Thr 740	Lys	Val	Trp	Trp	Gly 745	Gln	Leu	Ser	Val	Asp 750	Asn	Gly
Leu	Trp	Arg 755	Val	Thr	Leu	Cys	Met 760	Leu	Ala	Phe	Pro	Leu 765	Leu	Leu	Thr
Gly	Leu 770	Ile	Ser	Phe	Arg	Glu 775	Lys	Arg	Leu	Gln	Asp 780	Val	Gly	Thr	Pro
Ala 785	Ala	Arg	Ala	Arg	Ala 790	Phe	Phe	Thr	Ala	Pro 795	Val	Val	Val	Phe	His 800
Leu	Asn	Ile	Leu	Ser 805	Tyr	Phe	Ala	Phe	Leu 810	Cys	Leu	Phe	Ala	Tyr 815	Val
Leu	Met	Val 820	Asp	Phe	Gln	Pro	Val 825	Pro	Ser	Trp	Cys	Glu 830	Cys	Ala	Ile
Tyr	Leu 835	Trp	Leu	Phe	Ser	Leu	Val 840	Cys	Glu	Glu	Met 845	Arg	Gln	Leu	Phe
Tyr	Asp 850	Pro	Asp	Glu	Cys 855	Gly	Leu	Met	Lys	Lys	Ala 860	Ala	Leu	Tyr	Phe
Ser 865	Asp	Phe	Trp	Asn 870	Lys	Leu	Asp	Val	Gly	Ala 875	Ile	Leu	Leu	Phe	Val 880
Ala	Gly	Leu	Thr 885	Cys	Arg	Leu	Ile	Pro	Ala 890	Thr	Leu	Tyr	Pro	Gly 895	Arg
Val	Ile	Leu	Ser 900	Leu	Asp	Phe	Ile 905	Leu	Phe	Cys	Leu	Arg 910	Leu	Met	His
Ile	Phe 915	Thr	Ile	Ser	Lys	Thr	Leu 920	Gly	Pro	Lys	Ile 925	Ile	Ile	Val	Lys
Arg	Met 930	Met	Lys	Asp	Val	Phe 935	Phe	Phe	Leu	Phe	Leu 940	Leu	Ala	Val	Trp
Val 945	Val	Ser	Phe	Gly 950	Val	Ala	Lys	Gln	Ala	Ile 955	Leu	Ile	His	Asn	Glu 960
Arg	Arg	Val	Asp 965	Trp	Leu	Phe	Arg	Gly	Ala 970	Val	Tyr	His	Ser	Tyr 975	Leu
Thr	Ile	Phe	Gly 980	Gln	Ile	Pro	Gly	Tyr 985	Ile	Asp	Gly	Val 990	Asn	Phe	Asn
Pro	Glu 995	His	Cys	Ser	Pro	Asn	Gly 1000	Thr	Asp	Pro	Tyr	Lys 1005	Pro	Lys	Cys
Pro	Glu 1010	Ser	Asp	Ala	Thr	Gln	Gln 1015	Arg	Pro	Ala	Phe 1020	Pro	Glu	Trp	Leu
Thr 1025	Val	Leu	Leu	Leu	Cys 1030	Leu	Tyr	Leu	Leu	Phe 1035	Thr	Asn	Ile	Leu	Leu 1040

-17-

Leu Asn Leu Leu Ile Ala Met Phe Asn Tyr Thr Phe Gln Gln Val Gln
 1045 1050 1055
 Glu His Thr Asp Gln Ile Trp Lys Phe Gln Arg His Asp Leu Ile Glu
 1060 1065 1070
 Glu Tyr His Gly Arg Pro Ala Ala Pro Pro Phe Ile Leu Leu Ser
 1075 1080 1085
 His Leu Gln Leu Phe Ile Lys Arg Val Val Leu Lys Thr Pro Ala Lys
 1090 1095 1100
 Arg His Lys Gln Leu Lys Asn Lys Leu Glu Lys Asn Glu Glu Ala Ala
 1105 1110 1115 112
 Leu Leu Ser Trp Glu Ile Tyr Leu Lys Glu Asn Tyr Leu Gln Asn Arg
 1125 1130 1135
 Gln Phe Gln Gln Lys Gln Arg Pro Glu Gln Lys Ile Glu Asp Ile Ser
 1140 1145 1150
 Asn Lys Val Asp Ala Met Val Asp Leu Leu Asp Leu Asp Pro Leu Lys
 1155 1160 1165
 Arg Ser Gly Ser Met Glu Gln Arg Leu Ala Ser Leu Glu Glu Gln Val
 1170 1175 1180
 Ala Gln Thr Ala Arg Ala Leu His Trp Ile Val Arg Thr Leu Arg Ala
 1185 1190 1195 120
 Ser Gly Phe Ser Ser Glu Ala Asp Val Pro Thr Leu Ala Ser Gln Lys
 1205 1210 1215
 Ala Ala Glu Glu Pro Asp Ala Glu Pro Gly Gly Arg Lys Lys Thr Glu
 1220 1225 1230
 Glu Pro Gly Asp Ser Tyr His Val Asn Ala Arg His Leu Leu Tyr Pro
 1235 1240 1245
 Asn Cys Pro Val Thr Arg Phe Pro Val Pro Asn Glu Lys Val Pro Trp
 1250 1255 1260
 Glu Thr Glu Phe Leu Ile Tyr Asp Pro Pro Phe Tyr Thr Ala Glu Arg
 1265 1270 1275 128
 Lys Asp Ala Ala Ala Met Asp Pro Met Gly Asp Thr Leu Glu Pro Leu
 1285 1290 1295
 Ser Thr Ile Gln Tyr Asn Val Val Asp Gly Leu Arg Asp Arg Arg Ser
 1300 1305 1310
 Phe His Gly Pro Tyr Thr Val Gln Ala Gly Leu Pro Leu Asn Pro Met
 1315 1320 1325
 Gly Arg Thr Gly Leu Arg Gly Arg Gly Ser Leu Ser Cys Phe Gly Pro
 1330 1335 1340
 Asn His Thr Leu Tyr Pro Met Val Thr Arg Trp Arg Arg Asn Glu Asp
 1345 1350 1355 136
 Gly Ala Ile Cys Arg Lys Ser Ile Lys Lys Met Leu Glu Val Leu Val
 1365 1370 1375
 Val Lys Leu Pro Leu Ser Glu His Trp Ala Leu Pro Gly Gly Ser Arg
 1380 1385 1390
 Glu Pro Gly Glu Met Leu Pro Arg Lys Leu Lys Arg Ile Leu Arg Gln
 1395 1400 1405
 Glu His Trp Pro Ser Phe Glu Asn Leu Leu Lys Cys Gly Met Glu Val
 1410 1415 1420
 Tyr Lys Gly Tyr Met Asp Asp Pro Arg Asn Thr Asp Asn Ala Trp Ile
 1425 1430 1435 144
 Glu Thr Val Ala Val Ser Val His Phe Gln Asp Gln Asn Asp Val Glu
 1445 1450 1455
 Leu Asn Arg Leu Asn Ser Asn Leu His Ala Cys Asp Ser Gly Ala Ser
 1460 1465 1470
 Ile Arg Trp Gln Val Val Asp Arg Arg Ile Pro Leu Tyr Ala Asn His
 1475 1480 1485
 Lys Thr Leu Leu Gln Lys Ala Ala Ala Glu Phe Gly Ala His Tyr
 1490 1495 1500

<210> 13

<211> 1816

-18-

<212> PRT

<213> C. Elegans

<400> 13

Met	Ile	Thr	Asp	Lys	Asn	Leu	Phe	Ser	Arg	Leu	Leu	Ile	Lys	Lys	Asn
1				5					10					15	
Pro	Ile	Arg	Met	His	Ser	Pro	Ser	Phe	Ser	Phe	Ser	Leu	Ile	Thr	Ser
			20					25					30		
Leu	Phe	Phe	Thr	Gln	Phe	Phe	Met	Phe	Gln	Leu	Ser	Ser	Met	Ala	Tyr
		35					40					45			
Phe	Phe	Leu	Thr	Leu	Ile	Ala	Gly	Val	Thr	His	Phe	Tyr	Phe	Pro	Glu
	50					55					60				
Lys	Leu	Leu	Gly	Lys	Ser	Glu	Asn	Leu	Asp	His	Arg	Tyr	Gln	Ser	Ser
65				70					75					80	
Glu	Gln	Lys	Val	Leu	Ile	Glu	Trp	Thr	Glu	Asn	Lys	Ala	Val	Ala	Glu
			85						90					95	
Ser	Leu	Arg	Ala	Asn	Ser	Val	Thr	Val	Glu	Glu	Asn	Glu	Ser	Glu	Arg
			100					105						110	
Glu	Thr	Glu	Thr	Gln	Thr	Lys	Arg	Arg	Arg	Lys	Lys	Gln	Arg	Ser	Thr
	115						120					125			
Ser	Ser	Asp	Lys	Ala	Pro	Leu	Asn	Ser	Ala	Pro	Arg	His	Val	Gln	Lys
	130					135					140				
Phe	Asp	Trp	Lys	Asp	Met	Leu	His	Leu	Ala	Asp	Ile	Ser	Gly	Arg	Lys
145					150					155					160
Arg	Gly	Asn	Ser	Thr	Thr	Ser	His	Ser	Gly	His	Ala	Thr	Arg	Ala	Gly
				165					170					175	
Ser	Leu	Lys	Gly	Lys	Asn	Trp	Ile	Glu	Cys	Arg	Leu	Lys	Met	Arg	Gln
			180					185					190		
Cys	Ser	Tyr	Phe	Val	Pro	Ser	Gln	Arg	Phe	Ser	Glu	Arg	Cys	Gly	Cys
	195						200					205			
Gly	Lys	Glu	Arg	Ser	Lys	His	Thr	Glu	Glu	Val	Leu	Glu	Arg	Ser	Gln
	210					215					220				
Asn	Lys	Asn	His	Pro	Leu	Asn	His	Leu	Thr	Leu	Pro	Gly	Ile	His	Glu
225					230					235					240
Val	Asp	Thr	Thr	Asp	Ala	Asp	Ala	Asp	Asp	Asn	Glu	Val	Asn	Leu	Thr
				245					250					255	
Pro	Gly	Arg	Trp	Ser	Ile	Gln	Ser	His	Thr	Glu	Ile	Val	Pro	Thr	Asp
			260					265						270	
Ala	Tyr	Gly	Asn	Ile	Val	Phe	Glu	Gly	Thr	Ala	His	His	Ala	Gln	Tyr
	275						280					285			
Ala	Arg	Ile	Ser	Phe	Asp	Ser	Asp	Pro	Arg	Asp	Ile	Val	His	Leu	Met
	290					295					300				
Met	Lys	Val	Trp	Lys	Leu	Lys	Pro	Pro	Lys	Leu	Ile	Ile	Thr	Ile	Asn
305					310					315					320
Gly	Gly	Leu	Thr	Lys	Phe	Asp	Leu	Gln	Pro	Lys	Leu	Ala	Arg	Thr	Phe
				325					330					335	
Arg	Lys	Gly	Ile	Met	Lys	Ile	Ala	Lys	Ser	Thr	Asp	Ala	Trp	Ile	Ile
			340					345					350		
Thr	Ser	Gly	Leu	Asp	Glu	Gly	Val	Val	Lys	His	Leu	Asp	Ser	Ala	Leu
		355					360					365			
His	Ala	Leu	Glu	Phe	Trp	Ser	Phe	Gly	Leu	Phe	Trp	Val	Ile	Gln	Leu
	370					375					380				
Asp	Val	Leu	Leu	Ala	His	Ser	Met	Phe	Ile	Pro	Arg	Gly	Ser	Leu	Phe
385					390					395					400
Asp	His	Gly	Asn	His	Thr	Ser	Lys	Asn	His	Val	Val	Ala	Ile	Gly	Ile
				405					410					415	
Ala	Ser	Trp	Gly	Met	Leu	Lys	Gln	Arg	Ser	Arg	Phe	Val	Gly	Lys	Asp
			420					425					430		
Ser	Thr	Val	Thr	Tyr	Ala	Thr	Asn	Val	Phe	Asn	Asn	Thr	Arg	Leu	Lys
		435					440					445			
Glu	Leu	Asn	Asp	Asn	His	Ser	Tyr	Phe	Leu	Phe	Ser	Asp	Asn	Gly	Thr

-19-

450		455		460
Val Asn Arg Tyr Gly Ala	Glu Ile Ile Met Arg Lys Arg Leu Glu Ala			
465	470	475	480	
Tyr Leu Ala Gln Gly Asp Lys Lys Arg	Ser Ala Ile Pro Leu Val Cys			
	485	490	495	
Val Val Leu Glu Gly Gly Ala Phe Thr	Ile Lys Met Val His Asp Tyr			
	500	505	510	
Val Thr Thr Ile Pro Arg Ile Pro Val	Ile Val Cys Asp Gly Ser Gly			
	515	520	525	
Arg Ala Ala Asp Ile Leu Ala Phe Ala	His Gln Ala Val Ser Gln Asn			
	530	535	540	
Gly Phe Leu Ser Asp Asn Ile Arg Asn	Gln Leu Val Asn Ile Val Arg			
545	550	555	560	
Arg Ile Phe Gly Tyr Asp Pro Lys Thr	Ala Gln Lys Leu Ile Lys Gln			
	565	570	575	
Ile Val Glu Cys Ser Thr Asn Lys Ser	Leu Met Thr Ile Phe Arg Leu			
	580	585	590	
Gly Glu Ser Ser Arg Glu Asp Leu Asp	His Val Ile Met Ser Cys Leu			
	595	600	605	
Leu Lys Gly Gln Asn Leu Ser Pro Pro	Glu Gln Leu Gln Leu Ala Leu			
	610	615	620	
Ala Trp Asn Arg Ala Asp Ile Ala Arg	Thr Glu Ile Phe Ala Asn Gly			
625	630	635	640	
Thr Glu Trp Thr Thr Gln Asp Leu His	Asn Ala Met Ile Glu Ala Leu			
	645	650	655	
Ser Asn Asp Arg Ile Asp Phe Val His	Leu Leu Leu Glu Asn Gly Val			
	660	665	670	
Ser Met Gln Lys Phe Leu Thr Tyr Gly	Arg Leu Glu His Leu Tyr Asn			
	675	680	685	
Thr Asp Lys Gly Pro Gln Asn Thr Leu	Arg Thr Asn Leu Leu Val Asp			
	690	695	700	
Ser Lys His His Ile Lys Leu Val Glu	Val Gly Arg Leu Val Glu Asn			
705	710	715	720	
Leu Met Gly Asn Leu Tyr Lys Ser Asn	Tyr Thr Lys Glu Glu Phe Lys			
	725	730	735	
Asn Gln Tyr Phe Leu Phe Asn Asn Arg	Lys Gln Phe Gly Lys Arg Val			
	740	745	750	
His Ser Asn Ser Asn Gly Gly Arg Asn	Asp Val Ile Gly Pro Ser Gly			
	755	760	765	
Asp Ala Gly Arg Glu Arg Met Ser Ser	Met Gln Ile Ser Leu Ile Asn			
	770	775	780	
Asn Ala Arg Asn Ser Ile Ile Ser Leu	Phe Asn Gly Gly Arg Lys			
785	790	795	800	
Arg Glu Ser Asp Asp Glu Asp Asp Phe	Ser Asn Leu Glu Glu Glu Ala			
	805	810	815	
Asn Met Asp Phe Thr Phe Arg Tyr Pro	Tyr Ser Asp Leu Met Ile Trp			
	820	825	830	
Ala Val Leu Thr Lys Arg Gln Lys Met	Ala Lys Leu Met Trp Thr His			
	835	840	845	
Gly Glu Glu Gly Met Ala Lys Ala Leu	Val Ala Ser Arg Leu Tyr Val			
	850	855	860	
Ser Leu Ala Lys Thr Ala Ser Leu Ala	Thr Gly Glu Ile Gly Met Ser			
865	870	875	880	
Gln Asp Phe Thr Glu Phe Ser Asp Glu	Phe Ser Glu Leu Ala Val Glu			
	885	890	895	
Val Leu Glu Tyr Cys Thr Lys His Gly	Arg Asp Gln Thr Leu Arg Leu			
	900	905	910	
Leu Thr Cys Glu Leu Ala Asn Trp Gly	Asp Glu Thr Cys Leu Ser Leu			
	915	920	925	
Ala Ala Asn Asn Gly His Arg Lys Phe	Leu Ala His Pro Cys Cys Gln			
930	935	940		

-20-

Met Leu Leu Ser Asp Leu Trp Gln Gly Gly Leu Leu Met Lys Asn Asn
 945 950 955 960
 Gln Asn Ser Lys Val Leu Thr Cys Leu Ala Ala Pro Pro Leu Ile Phe
 965 970 975
 Leu Leu Gly Phe Lys Thr Lys Glu Gln Leu Met Leu Gln Pro Lys Thr
 980 985 990
 Ala Ala Glu His Asp Glu Glu Met Ser Asp Ser Glu Met Asn Ser Ala
 995 1000 1005
 Glu Asp Thr Asp Thr Ser Ser Asp Ser Ser Ser Asp Ser Asp Asp Ser
 1010 1015 1020
 Asp Glu Glu Asp Ala Lys Leu Arg Ala Gln Ser Leu Ser Ala Asp Gln
 1025 1030 1035 104
 Pro Leu Ser Ile His Arg Leu Val Arg Asp Lys Leu Asn Phe Ser Glu
 1045 1050 1055
 Lys Lys Lys Pro Asp Met Gly Ile Ser Arg Ile Val Val Ala Pro Pro
 1060 1065 1070
 Ile Val Thr Gly Arg Asn Arg Ala Arg Thr Met Ser Ile Lys Lys Ser
 1075 1080 1085
 Lys Lys Asn Val Ile Lys Pro Pro Ala Cys Leu Lys Ile Glu Thr Ser
 1090 1095 1100
 Asp Asp Asp Glu Gln Glu Gln Lys Lys Ala Thr Glu Met Cys Lys Ser
 1105 1110 1115 112
 Thr Phe Phe Asp Phe Phe Phe Asp Phe Pro Tyr Ile Asn Arg Thr Gly
 1125 1130 1135
 Lys Arg Gly Ser Val Ala Val Ala Met Asn His Asp Asp Met Tyr Ile
 1140 1145 1150
 Asp Pro Ser Glu Glu Leu Asp Thr Gln Thr Arg Gln Lys Ser Ser Arg
 1155 1160 1165
 Glu Phe Ser Ser Ser Arg Asn Val Thr Val Gln Val Tyr Thr Gln Arg
 1170 1175 1180
 Pro Leu Ser Trp Lys Lys Lys Ile Met Glu Phe Tyr Lys Ala Pro Ile
 1185 1190 1195 120
 Thr Thr Tyr Trp Leu Trp Phe Phe Ala Phe Ile Trp Phe Leu Ile Leu
 1205 1210 1215
 Leu Thr Tyr Asn Leu Leu Val Lys Thr Gln Arg Ile Ala Ser Trp Ser
 1220 1225 1230
 Glu Trp Tyr Val Phe Ala Tyr Ile Phe Val Trp Thr Leu Glu Ile Gly
 1235 1240 1245
 Arg Lys Val Val Ser Thr Ile Met Met Asp Thr Ser Lys Pro Val Leu
 1250 1255 1260
 Lys Gln Leu Arg Val Phe Phe Phe Gln Tyr Arg Asn Gly Leu Leu Ala
 1265 1270 1275 128
 Phe Gly Leu Leu Thr Tyr Leu Ile Ala Tyr Phe Ile Arg Leu Ser Pro
 1285 1290 1295
 Thr Thr Lys Thr Leu Gly Arg Ile Leu Ile Ile Cys Asn Ser Val Ile
 1300 1305 1310
 Trp Ser Leu Lys Leu Val Asp Tyr Leu Ser Val Gln Gln Gly Leu Gly
 1315 1320 1325
 Pro Tyr Ile Asn Ile Val Ala Glu Met Ile Pro Thr Met Ile Pro Leu
 1330 1335 1340
 Cys Val Leu Val Phe Ile Thr Leu Tyr Ala Phe Gly Leu Leu Arg Gln
 1345 1350 1355 136
 Ser Ile Thr Tyr Pro Tyr Glu Asp Trp His Trp Ile Leu Val Arg Asn
 1365 1370 1375
 Ile Phe Leu Gln Pro Tyr Phe Met Leu Tyr Gly Glu Val Tyr Ala Ala
 1380 1385 1390
 Glu Ile Asp Thr Cys Gly Asp Glu Ile Trp Gln Thr His Glu Asp Glu
 1395 1400 1405
 Asn Ile Pro Ile Ser Met Leu Asn Val Thr His Glu Thr Cys Val Pro
 1410 1415 1420
 Gly Tyr Trp Ile Ala Pro Val Gly Leu Thr Val Phe Met Leu Ala Thr

```
<210> 14
<211> 1387
<212> PRT
<213> C. Elegans
```

<400> 14
Met Arg Lys Ser Arg Arg Val Arg Lys Leu Val Arg His Ala Ser Leu
1 5 10 15
Ile Glu Asn Ile Arg His Arg Thr Ser Ser Phe Leu Arg Leu Asn
20 25 30
Ala Pro Arg Asn Ser Met Cys Asn Ala Asn Thr Val His Ser Ile Ser

[illegible]

-23-

Arg Leu Glu Asn Leu Tyr Asn Met Asp Asp Ile Asn Ser Ala His Ser
 530 535 540
 Val Arg Asn Trp Met Glu Asn Phe Asp Ser Met Asp Pro His Thr Tyr
 545 550 555 560
 Leu Thr Ile Pro Met Ile Gly Gln Val Val Glu Lys Leu Met Gly Asn
 565 570 575
 Ala Phe Gln Leu Tyr Tyr Thr Ser Arg Ser Phe Lys Gly Lys Tyr Asp
 580 585 590
 Arg Tyr Lys Arg Ile Asn Gln Ser Ser Tyr Phe His Arg Lys Arg Lys
 595 600 605
 Ile Val Gln Lys Glu Leu Phe Lys Lys Lys Ser Asp Asp Gln Ile Asn
 610 615 620
 Asp Asn Glu Glu Glu Asp Phe Ser Phe Ala Tyr Pro Phe Asn Asp Leu
 625 630 635 640
 Leu Ile Trp Ala Val Leu Thr Ser Arg His Gly Met Ala Glu Cys Met
 645 650 655
 Trp Val His Gly Glu Asp Ala Met Ala Lys Cys Leu Leu Ala Ile Arg
 660 665 670
 Leu Tyr Lys Ala Thr Ala Lys Ile Ala Glu Asp Glu Tyr Leu Asp Val
 675 680 685
 Glu Glu Ala Lys Arg Leu Phe Asp Asn Ala Val Lys Cys Arg Glu Asp
 690 695 700
 Ala Ile Glu Leu Leu Asp Gln Cys Tyr Arg Ala Asp His Asp Arg Thr
 705 710 715 720
 Leu Arg Leu Leu Arg Met Glu Leu Pro His Trp Gly Asn Asn Asn Cys
 725 730 735
 Leu Ser Leu Ala Val Leu Ala Asn Thr Lys Thr Phe Leu Ala His Pro
 740 745 750
 Cys Cys Gln Ile Leu Leu Ala Glu Leu Trp His Gly Ser Leu Lys Val
 755 760 765
 Arg Ser Gly Ser Asn Val Arg Val Leu Thr Ala Leu Ile Cys Pro Pro
 770 775 780
 Ala Ile Leu Phe Met Ala Tyr Lys Pro Lys His Ser Lys Thr Ala Arg
 785 790 795 800
 Leu Leu Ser Glu Glu Thr Pro Glu Gln Leu Pro Tyr Pro Arg Glu Ser
 805 810 815
 Ile Thr Ser Thr Thr Ser Asn Arg Tyr Arg Tyr Ser Lys Gly Pro Glu
 820 825 830
 Glu Gln Lys Glu Thr Leu Leu Glu Lys Gly Ser Tyr Thr Lys Lys Val
 835 840 845
 Thr Ile Ile Ser Ser Arg Lys Asn Ser Gly Val Ala Ser Val Tyr Gly
 850 855 860
 Ser Ala Ser Ser Met Met Phe Lys Arg Glu Pro Gln Leu Asn Lys Phe
 865 870 875 880
 Glu Arg Phe Arg Ala Phe Tyr Ser Ser Pro Ile Thr Lys Phe Trp Ser
 885 890 895
 Trp Cys Ile Ala Phe Leu Ile Phe Leu Thr Thr Gln Thr Cys Ile Leu
 900 905 910
 Leu Leu Glu Thr Ser Leu Lys Pro Ser Lys Tyr Glu Trp Ile Thr Phe
 915 920 925
 Ile Tyr Thr Val Thr Leu Ser Val Glu His Ile Arg Lys Leu Met Thr
 930 935 940
 Ser Glu Gly Ser Arg Ile Asn Glu Lys Val Lys Val Phe Tyr Ala Lys
 945 950 955 960
 Trp Tyr Asn Ile Trp Thr Ser Ala Ala Leu Leu Phe Phe Leu Val Gly
 965 970 975
 Tyr Gly Phe Arg Leu Val Pro Met Tyr Arg His Ser Trp Gly Arg Val
 980 985 990
 Leu Leu Ser Phe Ser Asn Val Leu Phe Tyr Met Lys Ile Phe Glu Tyr
 995 1000 1005
 Leu Ser Val His Pro Leu Leu Gly Pro Tyr Ile Gln Met Ala Ala Lys

-24-

1010					1015					1020					
Met	Val	Trp	Ser	Met	Cys	Tyr	Ile	Cys	Val	Leu	Leu	Leu	Val	Pro	Leu
1025					1030					1035				104	
Met	Ala	Phe	Gly	Val	Asn	Arg	Gln	Ala	Leu	Thr	Glu	Pro	Asn	Val	Lys
					1045					1050				1055	
Asp	Trp	His	Trp	Leu	Leu	Val	Arg	Asn	Ile	Phe	Tyr	Lys	Pro	Tyr	Phe
					1060					1065				1070	
Met	Leu	Tyr	Gly	Glu	Val	Tyr	Ala	Gly	Glu	Ile	Asp	Thr	Cys	Gly	Asp
					1075					1080				1085	
Glu	Gly	Ile	Arg	Cys	Phe	Pro	Gly	Tyr	Phe	Ile	Pro	Pro	Leu	Leu	Met
					1090					1095				1100	
Val	Ile	Phe	Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Leu	Asn	Leu	Leu	Ile
1105					1110					1115				112	
Ala	Ile	Phe	Asn	Asn	Ile	Tyr	Asn	Asp	Ser	Ile	Glu	Lys	Ser	Lys	Glu
					1125					1130				1135	
Ile	Trp	Leu	Phe	Gln	Arg	Tyr	Gln	Gln	Leu	Met	Glu	Tyr	His	Asp	Ser
					1140					1145				1150	
Pro	Phe	Leu	Pro	Pro	Pro	Phe	Ser	Ile	Phe	Ala	His	Val	Tyr	His	Phe
					1155					1160				1165	
Ile	Asp	Tyr	Leu	Tyr	Asn	Leu	Arg	Arg	Pro	Asp	Thr	Lys	Arg	Phe	Arg
					1170					1175				1180	
Ser	Glu	His	Ser	Ile	Lys	Leu	Ser	Val	Thr	Glu	Asp	Glu	Met	Lys	Arg
1185					1190					1195				120	
Ile	Gln	Asp	Phe	Glu	Glu	Asp	Cys	Ile	Asp	Thr	Leu	Thr	Arg	Ile	Arg
					1205					1210				1215	
Lys	Leu	Lys	Leu	Asn	Thr	Lys	Glu	Pro	Leu	Ser	Val	Thr	Asp	Leu	Thr
					1220					1225				1230	
Glu	Leu	Thr	Cys	Gln	Arg	Val	His	Asp	Leu	Met	Gln	Glu	Asn	Phe	Leu
					1235					1240				1245	
Leu	Lys	Ser	Arg	Val	Tyr	Asp	Ile	Glu	Thr	Lys	Ile	Asp	His	Ile	Ser
					1250					1255				1260	
Asn	Ser	Ser	Asp	Glu	Val	Gln	Ile	Leu	Lys	Asn	Lys	Lys	Leu	Ser	
1265					1270					1275				128	
Gln	Asn	Phe	Ala	Ala	Ser	Ser	Leu	Ser	Leu	Pro	Asp	Thr	Ser	Ile	Glu
					1285					1290				1295	
Val	Pro	Lys	Ile	Thr	Lys	Thr	Leu	Ile	Asp	Cys	His	Leu	Ser	Pro	Val
					1300					1305				1310	
Ser	Ile	Glu	Asp	Arg	Leu	Ala	Thr	Arg	Ser	Pro	Leu	Leu	Ala	Asn	Leu
					1315					1320				1325	
Gln	Arg	Asp	His	Thr	Leu	Arg	Lys	Leu	Pro	Thr	Trp	Glu	Thr	Ser	Thr
					1330					1335				1340	
Ala	Ser	Thr	Ser	Ser	Phe	Glu	Phe	Val	Phe	Tyr	Phe	Thr	Arg	His	Glu
1345					1350					1355				136	
Gly	Asn	Glu	Asn	Lys	Tyr	Glu	Phe	Lys	Lys	Leu	Glu	Lys	Gly	Gly	Phe
					1365					1370				1375	
Trp	Arg	Asn	Asn	Tyr	Val	Ile	Ser	Trp	Arg	Leu					
					1380					1385					

<210> 15
 <211> 1868
 <212> PRT
 <213> C. Elegans

<400> 15															
Met	Asn	Leu	Cys	Tyr	Arg	Arg	His	Arg	Tyr	Ala	Ser	Ser	Pro	Glu	Val
1				5					10					15	
Trp	Cys	Thr	Met	Glu	Ser	Asp	Glu	Leu	Gly	Val	Thr	Arg	Tyr	Leu	Gln
			20					25					30		
Ser	Lys	Gly	Gly	Asp	Gln	Val	Pro	Pro	Thr	Ser	Thr	Thr	Thr	Gly	Gly
		35					40					45			
Ala	Gly	Gly	Asp	Gly	Asn	Ala	Val	Pro	Thr	Thr	Ser	Gln	Ala	Gln	Ala

-25-

50		55		60
Gln Thr Phe Asn Ser Gly Arg Gln Thr Thr Gly Met Ser Ser Gly Asp				
65		70		75
Arg Leu Asn Glu Asp Val Ser Ala Thr Ala Asn Ser Ala Gln Leu Val				80
		85		90
Leu Pro Thr Pro Leu Phe Asn Gln Met Arg Phe Thr Glu Ser Asn Met				95
		100		105
Ser Leu Asn Arg His Asn Trp Val Arg Glu Thr Phe Thr Arg Arg Glu				110
		115		120
Cys Ser Arg Phe Ile Ala Ser Ser Arg Asp Leu His Lys Cys Gly Cys				125
		130		135
Gly Arg Thr Arg Asp Ala His Arg Asn Ile Pro Glu Leu Thr Ser Glu				140
		145		150
Phe Leu Arg Gln Lys Arg Ser Val Ala Ala Leu Glu Gln Gln Arg Ser				155
		165		170
Ile Ser Asn Val Asn Asp Asp Ile Asn Thr Gln Asn Met Tyr Thr Lys				175
		180		185
Arg Gly Ala Asn Glu Lys Trp Ser Leu Arg Lys His Thr Val Ser Leu				190
		195		200
Ala Thr Asn Ala Phe Gly Gln Val Glu Phe Gln Gly Gly Pro His Pro				205
		210		215
Tyr Lys Ala Gln Tyr Val Arg Val Asn Phe Asp Thr Glu Pro Ala Tyr				220
		225		230
Ile Met Ser Leu Phe Glu His Val Trp Gln Ile Ser Pro Pro Arg Leu				235
		245		250
Ile Ile Thr Val His Gly Gly Thr Ser Asn Phe Asp Leu Gln Pro Lys				255
		260		265
Leu Ala Arg Val Phe Arg Lys Gly Leu Leu Lys Ala Ala Ser Thr Thr				270
		275		280
Gly Ala Trp Ile Ile Thr Ser Gly Cys Asp Thr Gly Val Val Lys His				285
		290		295
Val Ala Ala Ala Leu Glu Gly Ala Gln Ser Ala Gln Arg Asn Lys Ile				300
		305		310
Val Cys Ile Gly Ile Ala Pro Trp Gly Leu Leu Lys Lys Arg Glu Asp				315
		325		330
Phe Ile Gly Gln Asp Lys Thr Val Pro Tyr Tyr Pro Ser Ser Ser Lys				335
		340		345
Gly Arg Phe Thr Gly Leu Asn Asn Arg His Ser Tyr Phe Leu Leu Val				350
		355		360
Asp Asn Gly Thr Val Gly Arg Tyr Gly Ala Glu Val Ile Leu Arg Lys				365
		370		375
Arg Leu Glu Met Tyr Ile Ser Gln Lys Gln Lys Ile Phe Gly Gly Thr				380
		385		390
Arg Ser Val Pro Val Val Cys Val Val Leu Glu Gly Gly Ser Cys Thr				395
		405		410
Ile Arg Ser Val Leu Asp Tyr Val Thr Asn Val Pro Arg Val Pro Val				415
		420		425
Val Val Cys Asp Gly Ser Gly Arg Ala Ala Asp Leu Leu Ala Phe Ala				430
		435		440
His Gln Asn Val Thr Glu Asp Gly Leu Leu Pro Asp Asp Ile Arg Arg				445
		450		455
Gln Val Leu Leu Leu Val Glu Thr Thr Phe Gly Cys Ser Glu Ala Ala				460
		465		470
Ala His Arg Leu Leu His Glu Leu Thr Val Cys Ala Gln His Lys Asn				475
		485		490
Leu Leu Thr Ile Phe Arg Leu Gly Glu Gln Gly Glu His Asp Val Asp				495
		500		505
His Ala Ile Leu Thr Ala Leu Leu Lys Gly Gln Asn Leu Ser Ala Ala				510
		515		520
Asp Gln Leu Ala Leu Ala Leu Ala Trp Asn Arg Val Asp Ile Ala Arg				525
		530		535
				540

-26-

Ser	Asp	Val	Phe	Ala	Met	Gly	His	Glu	Trp	Pro	Gln	Ala	Ala	Leu	His
545					550					555					560
Asn	Ala	Met	Met	Glu	Ala	Leu	Ile	His	Asp	Arg	Val	Asp	Phe	Val	Arg
				565					570						575
Leu	Leu	Leu	Glu	Gln	Gly	Ile	Asn	Met	Gln	Lys	Phe	Leu	Thr	Ile	Ser
			580					585						590	
Arg	Leu	Asp	Glu	Leu	Tyr	Asn	Thr	Asp	Lys	Gly	Pro	Pro	Asn	Thr	Leu
		595					600						605		
Phe	Tyr	Ile	Val	Arg	Asp	Val	Val	Arg	Val	Arg	Gln	Gly	Tyr	Arg	Phe
	610					615					620				
Lys	Leu	Pro	Asp	Ile	Gly	Leu	Val	Ile	Glu	Lys	Leu	Met	Gly	Asn	Ser
625					630					635					640
Tyr	Gln	Cys	Ser	Tyr	Thr	Thr	Ser	Glu	Phe	Arg	Asp	Lys	Tyr	Lys	Gln
				645					650						655
Arg	Met	Lys	Arg	Val	Lys	His	Ala	Gln	Lys	Lys	Ala	Met	Gly	Val	Phe
			660					665						670	
Ser	Ser	Arg	Pro	Ser	Arg	Thr	Gly	Ser	Gly	Ile	Ala	Ser	Arg	Gln	Ser
		675					680						685		
Thr	Glu	Gly	Met	Gly	Gly	Val	Gly	Gly	Gly	Ser	Ser	Val	Ala	Gly	Val
	690					695						700			
Phe	Gly	Asn	Ser	Phe	Gly	Asn	Gln	Asp	Pro	Pro	Leu	Asp	Pro	His	Val
705					710					715					720
Asn	Arg	Ser	Ala	Leu	Ser	Gly	Ser	Arg	Ala	Leu	Ser	Asn	His	Ile	Leu
			725						730						735
Trp	Arg	Ser	Ala	Phe	Arg	Gly	Asn	Phe	Pro	Ala	Asn	Pro	Met	Arg	Pro
			740					745						750	
Pro	Asn	Leu	Gly	Asp	Ser	Arg	Asp	Cys	Gly	Ser	Glu	Phe	Asp	Glu	Glu
		755					760					765			
Leu	Ser	Leu	Thr	Ser	Ala	Ser	Asp	Gly	Ser	Gln	Thr	Glu	Pro	Asp	Phe
		770				775					780				
Arg	Tyr	Pro	Tyr	Ser	Glu	Leu	Met	Ile	Trp	Ala	Val	Leu	Thr	Lys	Arg
785					790					795					800
Gln	Asp	Met	Ala	Met	Cys	Met	Trp	Gln	His	Gly	Glu	Glu	Ala	Met	Ala
			805						810						815
Lys	Ala	Leu	Val	Ala	Cys	Arg	Leu	Tyr	Lys	Ser	Leu	Ala	Thr	Glu	Ala
			820					825					830		
Ala	Glu	Asp	Tyr	Leu	Glu	Val	Glu	Ile	Cys	Glu	Glu	Leu	Lys	Lys	Tyr
		835					840					845			
Ala	Glu	Glu	Phe	Arg	Ile	Leu	Ser	Leu	Glu	Leu	Leu	Asp	His	Cys	Tyr
		850				855					860				
His	Val	Asp	Asp	Ala	Gln	Thr	Leu	Gln	Leu	Leu	Thr	Tyr	Glu	Leu	Ser
865					870					875					880
Asn	Trp	Ser	Asn	Glu	Thr	Cys	Leu	Ala	Leu	Ala	Val	Ile	Val	Asn	Asn
			885						890						895
Lys	His	Phe	Leu	Ala	His	Pro	Cys	Cys	Gln	Ile	Leu	Leu	Ala	Asp	Leu
			900					905						910	
Trp	His	Gly	Gly	Leu	Arg	Met	Arg	Thr	His	Ser	Asn	Ile	Lys	Val	Val
		915					920					925			
Leu	Gly	Leu	Ile	Cys	Pro	Pro	Phe	Ile	Gln	Met	Leu	Glu	Phe	Lys	Thr
	930					935					940				
Arg	Glu	Glu	Leu	Leu	Asn	Gln	Pro	Gln	Thr	Ala	Ala	Glu	His	Gln	Asn
945					950					955					960
Asp	Met	Asn	Tyr	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				965					970						975
Ser	Ser	Ser	Ser	Ser	Asp	Ser	Ser	Ser	Phe	Glu	Asp	Asp	Asp	Asp	Glu
			980					985					990		
Asn	Asn	Ala	His	Asn	His	Asp	Gln	Lys	Arg	Thr	Arg	Lys	Thr	Ser	Gln
		995					1000					1005			
Gly	Ser	Ala	Gln	Ser	Leu	Asn	Ile	Thr	Ser	Leu	Phe	His	Ser	Arg	Arg
	1010					1015					1020				
Arg	Lys	Ala	Lys	Lys	Asn	Glu	Lys	Cys	Asp	Arg	Glu	Thr	Asp	Ala	Ser

-27-

1025		1030		1035		104
Ala Cys Glu Ala Gly Asn Arg Gln Ile Gln Asn Gly Gly Leu Thr Ala						
	1045			1050		1055
Glu Tyr Gly Thr Phe Gly Glu Ser Asn Gly Val Ser Pro Pro Pro						
	1060			1065		1070
Tyr Met Arg Ala Asn Ser Arg Ser Arg Tyr Asn Asn Arg Ser Asp Met						
	1075			1080		1085
Ser Lys Thr Ser Ser Val Ile Phe Gly Ser Asp Pro Asn Leu Ser Lys						
	1090			1095		1100
Leu Gln Lys Ser Asn Ile Thr Ser Thr Asp Arg Pro Asn Pro Met Glu						
1105		1110			1115	112
Gln Phe Gln Gly Thr Arg Lys Ile Lys Met Arg Arg Arg Phe Tyr Glu						
	1125			1130		1135
Phe Tyr Ser Ala Pro Ile Ser Thr Phe Trp Ser Trp Thr Ile Ser Phe						
	1140			1145		1150
Ile Leu Phe Ile Thr Phe Phe Thr Tyr Thr Leu Leu Val Lys Thr Pro						
	1155			1160		1165
Pro Arg Pro Thr Val Ile Glu Tyr Ile Leu Ile Ala Tyr Val Ala Ala						
	1170			1175		1180
Phe Gly Leu Glu Gln Val Arg Lys Ile Ile Met Ser Asp Ala Lys Pro						
1185		1190			1195	120
Phe Tyr Glu Lys Ile Arg Thr Tyr Val Cys Ser Phe Trp Asn Cys Val						
	1205			1210		1215
Thr Ile Leu Ala Ile Ile Phe Tyr Ile Val Gly Phe Phe Met Arg Cys						
	1220			1225		1230
Phe Gly Ser Val Ala Tyr Gly Arg Val Ile Leu Ala Cys Asp Ser Val						
	1235			1240		1245
Leu Trp Thr Met Lys Leu Leu Asp Tyr Met Ser Val His Pro Lys Leu						
	1250			1255		1260
Gly Pro Tyr Val Thr Met Ala Gly Lys Met Ile Gln Asn Met Ser Tyr						
1265		1270			1275	128
Ile Ile Val Met Leu Val Val Thr Leu Leu Ser Phe Gly Leu Ala Arg						
	1285			1290		1295
Gln Ser Ile Thr Tyr Pro Asp Glu Thr Trp His Trp Ile Leu Val Arg						
	1300			1305		1310
Asn Ile Phe Leu Lys Pro Tyr Phe Met Leu Tyr Gly Glu Val Tyr Ala						
	1315			1320		1325
Asp Glu Ile Asp Thr Cys Gly Asp Glu Ala Trp Asp Gln His Leu Glu						
	1330			1335		1340
Asn Gly Gly Pro Val Ile Leu Gly Asn Gly Thr Thr Gly Leu Ser Cys						
1345		1350			1355	136
Val Pro Gly Tyr Trp Ile Pro Pro Leu Leu Met Thr Phe Phe Leu Leu						
	1365			1370		1375
Ile Ala Asn Ile Leu Leu Met Ser Met Leu Ile Ala Ile Phe Asn His						
	1380			1385		1390
Ile Phe Asp Ala Thr Asp Glu Met Ser Gln Gln Ile Trp Leu Phe Gln						
	1395			1400		1405
Arg Tyr Lys Gln Val Met Glu Tyr Glu Ser Thr Pro Phe Leu Pro Pro						
	1410			1415		1420
Pro Leu Thr Pro Leu Tyr His Gly Val Leu Ile Leu Gln Phe Val Arg						
1425		1430			1435	144
Thr Arg Leu Ser Cys Ser Lys Ser Gln Glu Arg Asn Pro Ile Leu Leu						
	1445			1450		1455
Leu Lys Ile Ala Glu Leu Phe Leu Asp Asn Asp Gln Ile Glu Lys Leu						
	1460			1465		1470
His Asp Phe Glu Glu Asp Cys Met Glu Asp Leu Ala Arg Gln Lys Leu						
	1475			1480		1485
Asn Glu Lys Asn Thr Ser Asn Glu Gln Arg Ile Leu Arg Ala Asp Ile						
	1490			1495		1500
Arg Thr Asp Gln Ile Leu Asn Arg Leu Ile Asp Leu Gln Ala Lys Glu						
1505		1510			1515	152

-28-

Ser Met Gly Arg Asp Val Ile Asn Asp Val Glu Ser Arg Leu Ala Ser
 1525 1530 1535
 Val Glu Lys Ala Gln Asn Glu Ile Leu Glu Cys Val Arg Ala Leu Leu
 1540 1545 1550
 Asn Gln Asn Asn Ala Pro Thr Ala Ile Gly Arg Cys Phe Ser Pro Ser
 1555 1560 1565
 Pro Asp Pro Leu Val Glu Thr Ala Asn Gly Thr Pro Gly Pro Leu Leu
 1570 1575 1580
 Leu Lys Leu Pro Gly Thr Asp Pro Ile Leu Glu Glu Lys Asp His Asp
 1585 1590 1595 160
 Ser Gly Glu Asn Ser Asn Ser Leu Pro Pro Gly Arg Ile Arg Arg Asn
 1605 1610 1615
 Arg Thr Ala Thr Ile Cys Gly Gly Tyr Val Ser Glu Glu Arg Asn Met
 1620 1625 1630
 Met Leu Leu Ser Pro Lys Pro Ser Asp Val Ser Gly Ile Pro Gln Gln
 1635 1640 1645
 Arg Leu Met Ser Val Thr Ser Met Asp Pro Leu Pro Leu Pro Leu Ala
 1650 1655 1660
 Lys Leu Ser Thr Met Ser Ile Arg Arg Arg His Glu Glu Tyr Thr Ser
 1665 1670 1675 168
 Ile Thr Asp Ser Ile Ala Ile Arg His Pro Glu Arg Arg Ile Arg Asn
 1685 1690 1695
 Asn Arg Ser Asn Ser Ser Glu His Asp Glu Ser Ala Val Asp Ser Glu
 1700 1705 1710
 Gly Gly Gly Asn Val Thr Ser Ser Pro Arg Lys Arg Ser Thr Arg Asp
 1715 1720 1725
 Leu Arg Met Thr Pro Ser Ser Gln Val Glu Glu Ser Thr Ser Arg Asp
 1730 1735 1740
 Gln Ile Phe Glu Ile Asp His Pro Glu His Glu Glu Asp Glu Ala Gln
 1745 1750 1755 176
 Ala Asp Cys Glu Leu Thr Asp Val Ile Thr Glu Glu Glu Asp Glu Glu
 1765 1770 1775
 Glu Asp Asp Glu Glu Asp Asp Ser His Glu Arg His His Ile His Pro
 1780 1785 1790
 Arg Arg Lys Ser Ser Arg Gln Asn Arg Gln Pro Ser His Thr Leu Glu
 1795 1800 1805
 Thr Asp Leu Ser Glu Gly Glu Glu Val Asp Pro Leu Asp Val Leu Lys
 1810 1815 1820
 Met Lys Glu Leu Pro Ile Ile His Gln Ile Leu Asn Glu Glu Glu Gln
 1825 1830 1835 184
 Ala Gly Ala Pro His Ser Thr Pro Val Ile Ala Ser Pro Ser Ser Ser
 1845 1850 1855
 Arg Ala Asp Leu Thr Ser Gln Lys Cys Ser Asp Val
 1860 1865

<210> 16
 <211> 489
 <212> DNA
 <213> Mus Musculus

<400> 16
 ccctgaaaga ctcgacttct gctgctagcg ctggagctga gttagttttg agaaggtttc 60
 ccggggctgt ccttggttcg tggcccgtgc caccgcctcc ggagacgctt tccgatagat 120
 ggctgcaggc cgcgagggtg gaggaggagc cgctgccctt ccggagtcgc ccccgtagg 180
 agaatgtccc agaaatcctg gatagagagc actttgacca agagggagtg tgtatatatt 240
 ataccaagct ccaaagacct tcacagatgt cttccaggat gtcagatttg tcagcaactt 300
 gtcagatggt tctgtggtcg tttggtcaag caacatgcat gctttactgc aagtcttgcc 360
 atgaaatact cagatgtgaa attgggtgaa cactttaacc aggcaataga agaatggtct 420
 gtggaaaagc acacggagca gagcccaaca gatgcttatg gagtcatcaa ttttcaaggg 480
 ggttctcat 489

-29-

<210> 17
 <211> 102
 <212> PRT
 <213> Mus Musculus

<400> 17
 Met Ser Gln Lys Ser Trp Ile Glu Ser Thr Leu Thr Lys Arg Glu Cys
 1 5 10 15
 Val Tyr Ile Ile Pro Ser Ser Lys Asp Pro His Arg Cys Leu Pro Gly
 20 25 30
 Cys Gln Ile Cys Gln Gln Leu Val Arg Cys Phe Cys Gly Arg Leu Val
 35 40 45
 Lys Gln His Ala Cys Phe Thr Ala Ser Leu Ala Met Lys Tyr Ser Asp
 50 55 60
 Val Lys Leu Gly Glu His Phe Asn Gln Ala Ile Glu Glu Trp Ser Val
 65 70 75 80
 Glu Lys His Thr Glu Gln Ser Pro Thr Asp Ala Tyr Gly Val Ile Asn
 85 90 95
 Phe Gln Gly Gly Ser His
 100

<210> 18
 <211> 410
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (6)...(6)

<221> unsure
 <222> (58)...(58)

<221> unsure
 <222> (89)...(89)

<221> unsure
 <222> (406)...(406)

<400> 18
 gccgcnggag cctgagcgga ggggtgtgcgc agcctcgcca gcggggggccc cgggctgngc 60
 cattgcctca ctgagccagc gcctgcctnc tacctcgccg acagctggaa ccagtgcgac 120
 ctagtggtc tcacctgctt cctcctgggc gtgggctgcc ggctgacccc gggttgttac 180
 cacctgggccc gcaactgtcct ctgcatcgac ttcattggtt tcacgggtgcg gctgcttcac 240
 atcttcacgg tcaacaaaca gctggggccc aagatcgta tcgtgagcaa gatgatgaag 300
 gacgtgttct tcttctctt cttcctcggc gtgtggctgg tagctatggg ttgggccacg 360
 gaggggttcc tgaggccacg ggacagtgcac ttcccaagta tctgncgcc 410

<210> 19
 <211> 131
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (15)...(15)
 <223> UNKNOWN

<221> UNSURE
 <222> (25)...(25)
 <223> UNKNOWN

-30-

<221> UNSURE
 <222> (131)...(131)
 <223> UNKNOWN

<400> 19
 Ala Glu Gly Val Arg Ser Leu Ala Ser Gly Gly Pro Gly Leu Xaa His
 1 5 10 15
 Cys Leu Thr Glu Pro Ala Pro Ala Xaa Tyr Leu Ala Asp Ser Trp Asn
 20 25 30
 Gln Cys Asp Leu Val Ala Leu Thr Cys Phe Leu Leu Gly Val Gly Cys
 35 40 45
 Arg Leu Thr Pro Gly Leu Tyr His Leu Gly Arg Thr Val Leu Cys Ile
 50 55 60
 Asp Phe Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn
 65 70 75 80
 Lys Gln Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp
 85 90 95
 Val Phe Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Met Gly
 100 105 110
 Trp Ala Thr Glu Gly Phe Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser
 115 120 125
 Ile Leu Xaa
 130

<210> 20
 <211> 389
 <212> DNA
 <213> Homo Sapiens

<400> 20
 caaatttttt gttagtacac catctcatcc aaattgcaaa agtcacatgg aaactggaac 60
 caaagatcaa gaaactgttt gctctaaagc tacagaagga gataatacag aatttgaggc 120
 atttgttagga cacagagata gcatggattt acagagggtt aaagaaacat caaacaagat 180
 aaaaatacta tccaataaca atacttctga aaacactttg aaacgagtga gttctcttgc 240
 tggatttact gactgtcaca gaacttccat tcctgttcat tcaaaacgag aaaagatcag 300
 tagaaggcca tctaccgaag acactcatga agtagattcc aaagcagctt taataccggt 360
 ttgtagattt caactaaaca gatatatat 389

<210> 21
 <211> 415
 <212> DNA
 <213> Homo Sapiens

<400> 21
 atttctagtt tttcaaattt gccagtcctt ttgaatagta tctccttctt ttctcatggt 60
 ttatatattaa aactttttta tgtccatcat cactttaaac atacttattt tgtcatctat 120
 aaccaataat tccactatct taccagaaat caaataccgt ttatgtaagt tgactcccat 180
 gagttctaaa ttgccattgt gaggtcatct tcggttaggc ttttaattgt tgcaaagttg 240
 tgcagctcag ggtcaggaag agtccctcca gaaaggagga tttgttactg tgaatctctt 300
 tgtaactaa cctctttccc cactgaaata acttttttca ataacatgat tttacaaca 360
 taatctctct atgccagaac agatatatat gaatgtaagt caatattttc ttgag 415

<210> 22
 <211> 405
 <212> DNA
 <213> Mus Musculus

<400> 22
 ttattatggc ttatcatgaa aaaccagtc tgcctcctcc tcttatcatc ctcagccata 60
 tagtttctact gttttgctgt gtatgcaaaa gaagaaagaa agataagact tccgatgggc 120

-31-

caaaactttt	cttaacagaa	gaagatcaaa	agaaactcca	tgattttgaa	gagcagtgtg	180
ttgagatgta	ctttgatgag	aaagatgaca	aattcaattc	tgggagtgaa	gagagaatcc	240
gggtcacttt	tgaaagagt	gagcagatga	gcattcagat	taaagaagtt	ggagatcgtg	300
tcaactacat	aaaaagatca	ttacagtctt	tagattctca	aattgggtcat	ctgcaagatc	360
tctcagccct	aacagtagat	acattgaaaa	cacttacagc	ccaga		405

<210> 23
 <211> 5117
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (2382)... (2382)
 <223> unknown

<221> unsure
 <222> (4664)... (4664)
 <223> unknown

<221> unsure
 <222> (4682)... (4682)
 <223> unknown

<221> unsure
 <222> (4702)... (4702)
 <223> unknown

<221> unsure
 <222> (5038)... (5039)
 <223> unknown

<221> unsure
 <222> (5056)... (5056)
 <223> unknown

<221> unsure
 <222> (5071)... (5072)

<400> 23	
gatggcaaca	tggtgaagaa
caatggcata	tgaagcaaag
agtattccaa	tgattttggg
atgaaaccat	ggctatgaaa
gccttaagtt	agcagtttct
tgttgttatc	tgatatgtgg
tcatactaag	catttttagtt
aaatgtccca	tatcccacaa
acaactttca	gaacataaca
tgatagtaa	tgaaggaaag
ttacgcgaaa	gttttatgcc
tgatcatatt	aggatttctg
taccttcagt	tcaagaatgg
tccgtgagat	ctttatgtct
gtgattactt	caacatcagt
taagatttgg	agcaaaatgg
gaagattaat	ttactgtctt
ctgtaaataca	acaggcagga
tctacattgt	agtgattatg
tactttatcc	tcatgaagca
actggatgat	ttttgggtgaa
tcaatggcta	aagcattagt
cagagtgaacc	tggtagatga
cagttggccg	ttgaattatt
atgaactgaa	gaactggagt
gaccttttgt	agctcacacc
tgaatatgag	gaaaaattcc
tattgctgtt	agagtataaa
ctcatcagat	gacaatggat
ccatggaagt	gtttaaagaa
gatacaaat	gaaatcaaaa
aaaattctgg	tttaacacgt
caccttattg	aaaattctgg
catttgtggg	tcttgtacaa
cttatatttt	tacttatgcc
aagtaaacca	gaagattaaa
ccataatttc	tttcttcatt
atgcatatga	taatcatggt
tttggatatg	gcgtttgcta
aaaaatgggtg	gccaatatgt
tgggtgttccc	agaaaggcaa
ctcttgctaa	agatatagtt
acgaaattga	tgtgtgtgca
	aatgattctg

-32-

ttatccctca	aatctgtggt	cctgggacgt	ggttgactcc	attttttcaa	gcagtctacc	1320
tctttgtaca	gtatatcatt	atggttaatc	ttcttattgc	attttttcaac	aatgtgtatt	1380
tacaagtga	ggcaatttcc	aatattgtat	ggaagtacca	gcgttatcat	tttattatgg	1440
cttatcatga	gaaaccagtt	ctgcctcctc	cacttatcat	tcttagccat	atagtttctc	1500
tggtttgtctg	catatgtaag	agaagaaaga	agataaagac	ttccgatgga	ccaaaaacttt	1560
tcttaacaga	agaagatcaa	aagaaaacttc	atgattttga	agagcagtg	gttgaaatgt	1620
atttcaatga	aaaagatgac	aaatttcatt	ctgggagtga	agagagaatt	cgtgtcactt	1680
ttgaaagagt	ggaacagatg	tgcatcaga	ttaaagaagt	tggagatcgt	gtcaactaca	1740
taaaaagatc	attacaatca	ttagattctc	aaattggcca	tttgcaagat	ctttcagccc	1800
tgacggtaga	tacattaaaa	acactcactg	cccagaaagc	gtcggaaagc	agcaaaagt	1860
ataatgaaat	cacacgagaa	ctgagcattt	ccaacactt	ggctcaaaac	cttattgatg	1920
atggctctgt	aagaccttct	gtatggaaaa	agcatgggtg	tgtaaataca	cttagctcct	1980
ctcttcctca	aggtgatctt	gaaagtaata	atccttttca	ttgtaatat	ttaatgaaag	2040
atgacaaaga	tccccagtg	aatatatttg	gtcaagactt	acctgcagta	ccccagagaa	2100
aagaatttaa	ttttccagag	gctggttcct	cttctgggtg	cttattccca	agtgtctgtt	2160
ccctccgac	actgcgacag	agactacatg	gggtagaact	cttaaaaaata	tttaaaaaaa	2220
atcaaaaaat	aggcagttca	tctactagca	taccacatct	gtcatcccca	ccaaccaaat	2280
tttttgtag	tacaccatct	cagccaagtt	gcaaaagcca	cttggaact	ggaaccaag	2340
atcaagaaac	tgtttgctct	aaagctacag	aaggagataa	tncagaattt	ggagcatttg	2400
taggacacag	agatagcatg	gatttacaga	ggtttaaga	aacatcaaac	aagataaaaa	2460
tactatccaa	taacaatact	tctgaaaaa	ctttgaaacg	agtgaattct	cttgctggat	2520
ttactgactg	tcacagaact	tccattcctg	ttcattcaaa	acaagcagaa	aaaatcagta	2580
gaaggccatc	taccgaagac	actcatgaag	tgatttccaa	agcagcttta	ataccggatt	2640
ggttacaaga	tagaccatca	aacagagaaa	tgccatctga	agaaggaaca	ttaaatggtc	2700
tcacttctcc	atttaagcca	gctatggata	caaattacta	ttattcagct	gtggaaagaa	2760
ataacttgat	gaggttatca	cagagcattc	catttacacc	tgtgcctcca	agaggggagc	2820
ctgtcacagt	gtatcgtttg	gaagagagtt	cacccaacat	actaaataac	agcatgtctt	2880
cttggtcaca	actaggcctc	tgtgccaaaa	tagagttttt	aagcaaagag	gagatgggag	2940
gaggtttacg	aagagctgtc	aaagtacagt	gtacctggtc	agaacatgat	atcctcaaat	3000
cagggcctac	ttatattatc	aaatcttttc	ttccagaggt	ggtttaataca	tggtcaagta	3060
tttataaaga	agatacagtt	ctgcatctct	gtctgagaga	aattcaacaa	cagagcagag	3120
cacaaaagct	tacgtttgcc	tttaatcaaa	tgaaacccaa	atccatacca	tattctccaa	3180
ggttccttga	agttttcctg	ctgtattgcc	attcagcagg	acagtgggtt	gctgtggaag	3240
aatgtatgac	tggagaattt	agaaaataca	acaataataa	tggagatgag	attattccaa	3300
ctaatactct	ggaagagatc	atgctagcct	ttagccactg	gacttacgaa	tatacaagag	3360
gggagttact	ggtacttgat	ttgcaagggt	ttggtgaaaa	tttgactgac	ccatctgtga	3420
taaaagcaga	agaaaagaga	tcctgtgata	tggttttttg	cccagcaaat	ctaggagaag	3480
atgcaattaa	aaacttcaga	gcaaaacatc	actgtaattc	ttgctgtaga	aagcttaaac	3540
ttccagatct	gaagaggaat	gattatacgc	ctgataaaat	tatatctcct	caggtatgagc	3600
cttcagattt	gaatcttcag	ccaccaaaga	ccaccaaaga	atcagaatca	gctaattctg	3660
ttcgtctgat	gttataatat	taatattact	gaatcattgg	ttttgcctgc	acctcacaga	3720
aatgttactg	tgtcactttt	ccctcgggag	gaaattgttt	ggtaatatag	aaaggtgtat	3780
gcaagttgaa	tttgctgact	ccagcacagt	taaaagggtc	atattctttt	gacctgatta	3840
atcagtcaga	aagtccttat	aggatagagc	tggcagctga	gaaattttta	aggtaattga	3900
taattagtat	ttgtaacttt	ttaaagggct	ctttgtatag	cagaggatct	catttgactt	3960
tgttttgatg	aggggtgatg	cctctcttat	gtggtacaat	accattaacc	aaaggtaggt	4020
gtccatgcag	attttatttg	cagctgtttt	attgccattc	aactagggaa	atgaagaaat	4080
cacgcagcct	tttggttaaa	tggcagtcac	aattttcctc	agtgtattta	gtgtgttcag	4140
tgatgatatc	actgggtccc	aactagatgc	ttgttgacca	cgggaaggga	aatgacttgt	4200
tctaattcta	ggttcacaga	ggtatgagaa	gcctgaactg	aagaccattt	tcaagaggga	4260
cggtattttat	gaatcagggt	taggctccat	atttaaagat	agagccagtt	ttttttttta	4320
atagaacca	aattgtgtaa	aaatgttaat	tgggtttttt	aaacattggt	ttatcaagtc	4380
actgttaagt	agaagaaagc	catggtaaac	tgatacataa	cctaaattat	aaaagcagaa	4440
acctaaactca	ctcgtcaagg	gaagttacct	tttgaggaaa	gttaaagtac	ttttttccct	4500
atctgtatct	atagcaacaa	cccagaactt	acaaaacttc	ccaaagattt	tattgattgt	4560
tatatcaaat	cagaatgtaa	acatgaactc	ttgcatatat	ttaaaattgt	gttggaaacat	4620
ttgaacatga	atgctgtttg	ggtacttaag	aaattrattc	agtnggatta	tcattatgtg	4680
anactggcag	attgcagtg	anccttatgc	caataaaatg	taatttaaca	gccccagata	4740
ttgttgaata	ttcaacaata	acaagaaaag	cttttcatct	aagttttatg	ctttaatttt	4800
ttttcttttt	ttttcttttt	cttttgtttc	cttggtacta	attttaattt	ttatttgtaa	4860
gggagcagta	taaagcttat	ttgtatttag	tagtgtatct	catagataca	gacaaggcaa	4920

-33-

gagatgataa gctgttttaa tagtggttaa tattgattgg ggggtggggag aaagaaaaag 4980
 tgtattactt aaagatacta tatacgtttt gtatatcatt aaatctttta aagaaatnna 5040
 ataaatttat tgtttncaaa aaaaaaaccc nntaaaaaaa aaagggcggc ccctctagag 5100
 gatccctcga ggggccc 5117

<210> 24
 <211> 1224
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (794)...(794)
 <223> UNKNOWN

<400> 24
 Trp Gln His Gly Glu Glu Ser Met Ala Lys Ala Leu Val Ala Cys Lys
 1 5 10 15
 Ile Tyr Arg Ser Met Ala Tyr Glu Ala Lys Gln Ser Asp Leu Val Asp
 20 25 30
 Asp Thr Ser Glu Glu Leu Lys Gln Tyr Ser Asn Asp Phe Gly Gln Leu
 35 40 45
 Ala Val Glu Leu Leu Glu Gln Ser Phe Arg Gln Asp Glu Thr Met Ala
 50 55 60
 Met Lys Leu Leu Thr Tyr Glu Leu Lys Asn Trp Ser Asn Ser Thr Cys
 65 70 75 80
 Leu Lys Leu Ala Val Ser Ser Arg Leu Arg Pro Phe Val Ala His Thr
 85 90 95
 Cys Thr Gln Met Leu Leu Ser Asp Met Trp Met Gly Arg Leu Asn Met
 100 105 110
 Arg Lys Asn Ser Trp Tyr Lys Val Ile Leu Ser Ile Leu Val Pro Pro
 115 120 125
 Ala Ile Leu Leu Leu Glu Tyr Lys Thr Lys Ala Glu Met Ser His Ile
 130 135 140
 Pro Gln Ser Gln Asp Ala His Gln Met Thr Met Asp Asp Ser Glu Asn
 145 150 155 160
 Asn Phe Gln Asn Ile Thr Glu Glu Ile Pro Met Glu Val Phe Lys Glu
 165 170 175
 Val Arg Ile Leu Asp Ser Asn Glu Gly Lys Asn Glu Met Glu Ile Gln
 180 185 190
 Met Lys Ser Lys Lys Leu Pro Ile Thr Arg Lys Phe Tyr Ala Phe Tyr
 195 200 205
 His Ala Pro Ile Val Lys Phe Trp Phe Asn Thr Leu Ala Tyr Leu Gly
 210 215 220
 Phe Leu Met Leu Tyr Thr Phe Val Val Leu Val Gln Met Glu Gln Leu
 225 230 235 240
 Pro Ser Val Gln Glu Trp Ile Val Ile Ala Tyr Ile Phe Thr Tyr Ala
 245 250 255
 Ile Glu Lys Val Arg Glu Ile Phe Met Ser Glu Ala Gly Lys Val Asn
 260 265 270
 Gln Lys Ile Lys Val Trp Phe Ser Asp Tyr Phe Asn Ile Ser Asp Thr
 275 280 285
 Ile Ala Ile Ile Ser Phe Phe Ile Gly Phe Gly Leu Arg Phe Gly Ala
 290 295 300
 Lys Trp Asn Phe Ala Asn Ala Tyr Asp Asn His Val Phe Val Ala Gly
 305 310 315 320
 Arg Leu Ile Tyr Cys Leu Asn Ile Ile Phe Trp Tyr Val Arg Leu Leu
 325 330 335
 Asp Phe Leu Ala Val Asn Gln Gln Ala Gly Pro Tyr Val Met Met Ile
 340 345 350
 Gly Lys Met Val Ala Asn Met Phe Tyr Ile Val Val Ile Met Ala Leu

-34-

355	360	365
Val Leu Leu Ser Phe Gly	Val Pro Arg Lys Ala Ile	Leu Tyr Pro His
370	375	380
Glu Ala Pro Ser Trp Thr	Leu Ala Lys Asp Ile	Val Phe His Pro Tyr
385	390	395
Trp Met Ile Phe Gly	Val Tyr Ala Tyr Glu	Ile Asp Val Cys Ala
405	410	415
Asn Asp Ser Val Ile Pro	Gln Ile Cys Gly Pro Gly	Thr Trp Leu Thr
420	425	430
Pro Phe Leu Gln Ala Val	Tyr Leu Phe Val Gln Tyr	Ile Ile Met Val
435	440	445
Asn Leu Leu Ile Ala Phe	Phe Asn Asn Val Tyr Leu	Gln Val Lys Ala
450	455	460
Ile Ser Asn Ile Val Trp	Lys Tyr Gln Arg Tyr His	Phe Ile Met Ala
465	470	475
Tyr His Glu Lys Pro Val	Leu Pro Pro Pro Leu	Ile Ile Leu Ser His
485	490	495
Ile Val Ser Leu Phe Cys	Cys Cys Ile Cys Lys Arg	Arg Lys Lys Asp Lys
500	505	510
Thr Ser Asp Gly Pro Lys	Leu Phe Leu Thr Glu Glu	Asp Gln Lys Lys
515	520	525
Leu His Asp Phe Glu Glu	Gln Cys Val Glu Met Tyr	Phe Asn Glu Lys
530	535	540
Asp Asp Lys Phe His Ser	Gly Ser Glu Glu Arg Ile	Arg Val Thr Phe
545	550	555
Glu Arg Val Glu Gln Met	Cys Ile Gln Ile Lys Glu	Val Gly Asp Arg
565	570	575
Val Asn Tyr Ile Lys Arg	Ser Leu Gln Ser Leu Asp	Ser Gln Ile Gly
580	585	590
His Leu Gln Asp Leu Ser	Ala Leu Thr Val Asp Thr	Leu Lys Thr Leu
595	600	605
Thr Ala Gln Lys Ala Ser	Glu Ala Ser Lys Val His	Asn Glu Ile Thr
610	615	620
Arg Glu Leu Ser Ile Ser	Lys His Leu Ala Gln Asn	Leu Ile Asp Asp
625	630	635
Gly Pro Val Arg Pro Ser	Val Trp Lys Lys His Gly	Val Val Asn Thr
645	650	655
Leu Ser Ser Ser Leu Pro	Gln Gly Asp Leu Glu Ser	Asn Asn Pro Phe
660	665	670
His Cys Asn Ile Leu Met	Lys Asp Lys Asp Pro Gln	Cys Asn Ile
675	680	685
Phe Gly Gln Asp Leu Pro	Ala Val Pro Gln Arg Lys	Glu Phe Asn Phe
690	695	700
Pro Glu Ala Gly Ser Ser	Ser Gly Ala Leu Phe Pro	Ser Ala Val Ser
705	710	715
Pro Pro Glu Leu Arg Gln	Arg Leu His Gly Val Glu	Leu Leu Lys Ile
725	730	735
Phe Asn Lys Asn Gln Lys	Leu Gly Ser Ser Thr Ser	Ile Pro His
740	745	750
Leu Ser Ser Pro Pro Thr	Lys Phe Val Ser Thr Pro	Ser Gln Pro
755	760	765
Ser Cys Lys Ser His Leu	Glu Thr Gly Thr Lys Asp	Gln Glu Thr Val
770	775	780
Cys Ser Lys Ala Thr Glu	Gly Asp Asn Xaa Glu Phe	Gly Ala Phe Val
785	790	795
Gly His Arg Asp Ser Met	Asp Leu Gln Arg Phe Lys	Glu Thr Ser Asn
805	810	815
Lys Ile Lys Ile Leu Ser	Asn Asn Asn Thr Ser Glu	Asn Thr Leu Lys
820	825	830
Arg Val Ser Ser Leu Ala	Gly Phe Thr Asp Cys His	Arg Thr Ser Ile
835	840	845

Pro Val His Ser Lys Gln Ala Glu Lys Ile Ser Arg Arg Pro Ser Thr
850 855 860
Glu Asp Thr His Glu Val Asp Ser Lys Ala Ala Leu Ile Pro Asp Trp
865 870 875 880
Leu Gln Asp Arg Pro Ser Asn Arg Glu Met Pro Ser Glu Glu Gly Thr
885 890 895
Leu Asn Gly Leu Thr Ser Pro Phe Lys Pro Ala Met Asp Thr Asn Tyr
900 905 910
Tyr Tyr Ser Ala Val Glu Arg Asn Asn Leu Met Arg Leu Ser Gln Ser
915 920 925
Ile Pro Phe Thr Pro Val Pro Pro Arg Gly Glu Pro Val Thr Val Tyr
930 935 940
Arg Leu Glu Glu Ser Ser Pro Asn Ile Leu Asn Asn Ser Met Ser Ser
945 950 955 960
Trp Ser Gln Leu Gly Leu Cys Ala Lys Ile Glu Phe Leu Ser Lys Glu
965 970 975
Glu Met Gly Gly Gly Leu Arg Arg Ala Val Lys Val Gln Cys Thr Trp
980 985 990
Ser Glu His Asp Ile Leu Lys Ser Gly His Leu Tyr Ile Ile Lys Ser
995 1000 1005
Phe Leu Pro Glu Val Val Asn Thr Trp Ser Ser Ile Tyr Lys Glu Asp
1010 1015 1020
Thr Val Leu His Leu Cys Leu Arg Glu Ile Gln Gln Gln Arg Ala Ala
1025 1030 1035 104
Gln Lys Leu Thr Phe Ala Phe Asn Gln Met Lys Pro Lys Ser Ile Pro
1045 1050 1055
Tyr Ser Pro Arg Phe Leu Glu Val Phe Leu Leu Tyr Cys His Ser Ala
1060 1065 1070
Gly Gln Trp Phe Ala Val Glu Glu Cys Met Thr Gly Glu Phe Arg Lys
1075 1080 1085
Tyr Asn Asn Asn Asn Gly Asp Glu Ile Ile Pro Thr Asn Thr Leu Glu
1090 1095 1100
Glu Ile Met Leu Ala Phe Ser His Trp Thr Tyr Glu Tyr Thr Arg Gly
1105 1110 1115 112
Glu Leu Leu Val Leu Asp Leu Gln Gly Val Gly Glu Asn Leu Thr Asp
1125 1130 1135
Pro Ser Val Ile Lys Ala Glu Glu Lys Arg Ser Cys Asp Met Val Phe
1140 1145 1150
Gly Pro Ala Asn Leu Gly Glu Asp Ala Ile Lys Asn Phe Arg Ala Lys
1155 1160 1165
His His Cys Asn Ser Cys Cys Arg Lys Leu Lys Leu Pro Asp Leu Lys
1170 1175 1180
Arg Asn Asp Tyr Thr Pro Asp Lys Ile Ile Phe Pro Gln Asp Glu Pro
1185 1190 1195 120
Ser Asp Leu Asn Leu Gln Pro Gly Asn Ser Thr Lys Glu Ser Glu Ser
1205 1210 1215
Ala Asn Ser Val Arg Leu Met Leu
1220

<210> 25
<211> 2180
<212> DNA
<213> Homo Sapiens

<400> 25
tcgaggccaa gaattcggca cgagggcctc gggcaggccc cctggagcga cctgcttctt 60
tgggcactgt tgctgaacag ggcacagatg gccatgtact tctgggagat gggttccaat 120
gcagtttctt cagctcttgg ggcctgtttg ctgctccggg tgatggcacg cctggagcct 180
gacgctgagg aggcagcacg gaggaagac ctggcggtta agtttgaggg gatgggcgtt 240
gacctctttg gcgagtgcta tcgcagcagt gaggtgaggg ctgccgcct cctcctccgt 300
cgctgcccgc tctgggggga tgccacttgc ctccagctgg ccatgcaagc tgacgcccgt 360

-36-

gccttctttg	cccaggatgg	ggtacagtct	ctgctgacac	agaagtgggtg	gggagatatg	420
gccagcacta	cccccattctg	ggccctgggt	ctcgcccttct	tttgccctcc	actcatctac	480
accgcctca	tcaccttcag	gaaatcagaa	gaggagccca	cacgggagga	gctagagttt	540
gacatggata	gtgtcattaa	tggggaaggg	cctgtcggga	cggcggaccc	agccgagaag	600
acgcgcgtgg	gggtcccgcg	ccagtcgggc	cgtcggggtt	gctgcggggg	ccgctgcggg	660
gggcgcgggt	gcctacgcgg	ctggthccac	ttctggggcg	cgcgggtgac	catcttcatg	720
ggcaacgtgg	tcagctacct	gctgttctctg	ctgcttttct	cgcgggtgct	gctcgtggat	780
ttccagccgg	cgcgcgcccg	ctccctggag	ctgctgctct	atttctgggc	tttcacgctg	840
ctgtgcgagg	aactgcgcca	gggcctgagc	ggaggcgggg	gcagcctcgc	cagcgggggc	900
ccggggcctg	gccatgcctc	actgagccag	cgcctgcgcc	tctacctcgc	cgacagctgg	960
aaccagtgcg	acctagtggc	tctcacctgc	ttctctcttg	gcgtgggctg	ccggctgacc	1020
ccgggtttgt	accacctggg	ccgcactgtc	ctctgcatcg	acttcatggg	tttcacgggtg	1080
cggctgcttc	acatcttcac	ggtcaacaaa	cagctggggc	ccaagatcgt	catcgtgagc	1140
aagatgatga	aggacgtgtt	cttcttctct	ttcttctctg	gcgtgtggct	ggtagcctat	1200
ggcgtggcca	cggaggggct	cctgaggcca	cgggacagtg	acttcccaag	tatcctgcgc	1260
cgcgtcttct	accgtcccta	cctgcagatc	ttcgggcaga	ttccccagga	ggacatggac	1320
gtggccctca	tggagcacag	caactgctcg	tccgagcccg	gcttctgggc	acaccctcct	1380
ggggcccagg	cgggcacctg	cgtctcccag	tatgccaact	ggctgggtgg	gctgctcctc	1440
gtcatcttcc	tgctcgtggc	caacatcctg	ctgggtcaact	tgctcattgc	catgttcagt	1500
tacacattcg	gcaaagtaca	gggcaacagc	gatctctact	ggaaggcgca	gcgttaccgc	1560
ctcatccggg	aattccactc	tccgcccgcg	ctggccccgc	cctttatcgt	catctcccac	1620
ttgcgcctcc	tgctcaggca	attgtgcagg	cgaccscgga	gccccagcc	gtcctccccg	1680
gccctcgagc	atttccgggt	ttacctttct	aaggaagccg	agcgggaagct	gctaactgtg	1740
gaatcgggtg	ataaggagaa	ctttctgctg	gcacgcgcta	gggacaagcg	ggagagcgac	1800
tccgagmgtc	tgaagcgcac	gtcccagaag	gtggacttgg	caactgaaaca	gctgggacac	1860
atccgcgagt	acgaacagcg	cctgaaaagt	ctggagcggg	aggtccagca	gtgtacctcg	1920
gcccccgcac	ctggtggcct	tgtccttgag	gtgagcccca	tgcccatctg	ggccactgtc	1980
aggaccacct	ttgggagtg	catccttaca	aaccacagca	tgcccggctc	ctcccagaac	2040
cagtcccagc	ctgggaggat	caaggcctgg	atcccrggcc	gttatccatc	tgaggagctgc	2100
agggtccttg	gggtaacagg	gaccacagac	ccctcaccac	tcacagattc	ctcacactgg	2160
ggaaataaag	ccatttcaga					2180

<210> 26
 <211> 725
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (553)...(553)
 <223> UNKNOWN

<221> UNSURE
 <222> (603)...(603)
 <223> UNKNOWN

<400> 26

Ser	Arg	Pro	Arg	Ile	Arg	His	Glu	Gly	Leu	Gly	Gln	Ala	Pro	Trp	Ser
1				5					10					15	
Asp	Leu	Leu	Leu	Trp	Ala	Leu	Leu	Leu	Asn	Arg	Ala	Gln	Met	Ala	Met
			20					25					30		
Tyr	Phe	Trp	Glu	Met	Gly	Ser	Asn	Ala	Val	Ser	Ser	Ala	Leu	Gly	Ala
		35					40					45			
Cys	Leu	Leu	Leu	Arg	Val	Met	Ala	Arg	Leu	Glu	Pro	Asp	Ala	Glu	Glu
	50					55					60				
Ala	Ala	Arg	Arg	Lys	Asp	Leu	Ala	Phe	Lys	Phe	Glu	Gly	Met	Gly	Val
65				70					75					80	
Asp	Leu	Phe	Gly	Glu	Cys	Tyr	Arg	Ser	Ser	Glu	Val	Arg	Ala	Ala	Arg
			85					90						95	
Leu	Leu	Leu	Arg	Arg	Cys	Pro	Leu	Trp	Gly	Asp	Ala	Thr	Cys	Leu	Gln
			100					105						110	

-37-

Leu	Ala	Met	Gln	Ala	Asp	Ala	Arg	Ala	Phe	Phe	Ala	Gln	Asp	Gly	Val
		115					120					125			
Gln	Ser	Leu	Leu	Thr	Gln	Lys	Trp	Trp	Gly	Asp	Met	Ala	Ser	Thr	Thr
	130					135					140				
Pro	Ile	Trp	Ala	Leu	Val	Leu	Ala	Phe	Phe	Cys	Pro	Pro	Leu	Ile	Tyr
145					150					155					160
Thr	Arg	Leu	Ile	Thr	Phe	Arg	Lys	Ser	Glu	Glu	Glu	Pro	Thr	Arg	Glu
				165					170						175
Glu	Leu	Glu	Phe	Asp	Met	Asp	Ser	Val	Ile	Asn	Gly	Glu	Gly	Pro	Val
			180					185					190		
Gly	Thr	Ala	Asp	Pro	Ala	Glu	Lys	Thr	Pro	Leu	Gly	Val	Pro	Arg	Gln
		195					200					205			
Ser	Gly	Arg	Pro	Gly	Cys	Cys	Gly	Gly	Arg	Cys	Gly	Gly	Arg	Arg	Cys
	210				215						220				
Leu	Arg	Arg	Trp	Phe	His		Trp	Gly	Ala	Pro	Val	Thr	Ile	Phe	Met
225					230					235					240
Gly	Asn	Val	Val	Ser	Tyr	Leu	Leu	Phe	Leu	Leu	Leu	Phe	Ser	Arg	Val
				245				250						255	
Leu	Leu	Val	Asp	Phe	Gln	Pro	Ala	Pro	Pro	Gly	Ser	Leu	Glu	Leu	Leu
			260					265					270		
Leu	Tyr	Phe	Trp	Ala	Phe	Thr	Leu	Leu	Cys	Glu	Glu	Leu	Arg	Gln	Gly
		275					280					285			
Leu	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Ala	Ser	Gly	Gly	Pro	Gly	Pro	Gly
	290					295					300				
His	Ala	Ser	Leu	Ser	Gln	Arg	Leu	Arg	Leu	Tyr	Leu	Ala	Asp	Ser	Trp
305					310					315					320
Asn	Gln	Cys	Asp	Leu	Val	Ala	Leu	Thr	Cys	Phe	Leu	Leu	Gly	Val	Gly
			325						330					335	
Cys	Arg	Leu	Thr	Pro	Gly	Leu	Tyr	His	Leu	Gly	Arg	Thr	Val	Leu	Cys
			340					345					350		
Ile	Asp	Phe	Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val
		355					360					365			
Asn	Lys	Gln	Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys
	370					375					380				
Asp	Val	Phe	Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr
385					390				395						400
Gly	Val	Ala	Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro
				405					410					415	
Ser	Ile	Leu	Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly
			420					425					430		
Gln	Ile	Pro	Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn
		435					440					445			
Cys	Ser	Ser	Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala
	450					455					460				
Gly	Thr	Cys													

-38-

595		600		605
Gln Lys Val Asp Leu Ala Leu Lys	Gln Leu Gly His Ile Arg Glu Tyr			
610	615	620		
Glu Gln Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Thr Ser				
625	630	635	640	
Ala Pro Ala Pro Gly Gly Leu Val Leu Glu Val Ser Pro Met Ser Ile				
645	650	655		
Trp Ala Thr Val Arg Thr Thr Phe Gly Ser Val Ile Leu Thr Asn His				
660	665	670		
Ser Met Pro Gly Ser Ser Gln Asn Gln Ser Gln Pro Gly Arg Ile Lys				
675	680	685		
Ala Trp Ile Pro Gly Arg Tyr Pro Ser Gly Gly Cys Arg Val Leu Gly				
690	695	700		
Val Thr Gly Thr Thr Asp Pro Ser Pro Leu Thr Asp Ser Ser His Trp				
705	710	715	720	
Gly Asn Lys Ala Ile				
725				

<210> 27
 <211> 7419
 <212> DNA
 <213> Homo Sapiens

<400> 27

cggggaccga	tccagcctcc	ggactctagc	ctaggctttt	gcaaaaagct	atttaggtga	60
cactatagaa	ggtacgcctg	caggtaccgg	tccggaattc	cggggtcgac	ccacgcgtcc	120
gcagccccgt	cgccggcgga	ggcgggcgcg	ggcgcgtnc	ctgtggccag	tcacccggag	180
gagttggtcg	cacaattatg	aaagactcgg	cttctgctgc	tagcgcggga	gctgagttag	240
ttctgagaag	gtttccctgg	gcgttccttg	tccggcggcc	tctgctgccg	cctccggaga	300
cgcttcccga	tagatggcta	caggccgcgg	aggaggagga	ggtggagttg	ctgcccttcc	360
ggagtccgcc	ccgtgaggag	aatgtcccag	aaatcctgga	tagaaagcac	tttgaccaag	420
agggaatgtg	tatatattat	accaagttcc	aaggaccctc	acagatgcct	tccaggatgt	480
caaatttgct	agcaactcgt	caggtgtttt	tgtggtcgct	tgggtcaagca	acatgcttgt	540
tttactgcaa	gtcttgccat	gaaatactca	gatgtgaaat	tgggtgacca	ttttaatcag	600
gcaatagaag	aatggtctgt	ggaaaagcat	acagaacaga	gccaacgga	tgcttatgga	660
gtcataaatt	ttcaaggggg	ttctcattcc	tacagagcta	agtatgtgag	gctatcatat	720
gacaccaaac	ctgaagtcac	tctgcaactt	ctgcttaaa	aatggcaaat	ggagttaccc	780
aaacttggtt	tctctgtaca	tgggggcatg	cagaaatttg	agcttcaccc	acgaatcaag	840
cagttgcttg	gaaaaggtct	tattaaagct	gcagttacaa	ctggagcctg	gatttttaact	900
ggaggagtaa	acacaggtgt	ggcaaaacat	gttgagatg	ccctcaaaga	acatgcttcc	960
agatcatctc	gaaagatttg	cactatcgga	atagctccat	ggggagtgat	tgaaaacaga	1020
aatgatcttg	ttgggagaga	tgtggttgct	ccttatcaaa	ccttattgaa	ccccctgagc	1080
aaattgaatg	ttttgaataa	tctgcattcc	catttcatat	tgggtgatga	tggcactggt	1140
gaaaagtatg	gggcgggaag	cagactgaga	agagaacttg	aaaaaactat	taatcagcaa	1200
agaattcatg	ctaggatttg	ccagggtgtc	cctgtggtgg	cacttatatt	tgaggggtggg	1260
ccaaatgtta	tcctcacagt	tcttgaatac	cttcaggaaa	gccccctgt	tccagtagtt	1320
gtgtgtgaag	gaacaggcag	agctgcagat	ctgctagcgt	atattcataa	acaaacagaa	1380
gaaggaggga	atcttcctga	tgcagcagag	cccgatatta	tttccactat	caaaaaaaca	1440
tttaactttg	gccagaatga	agcacttcat	ttatttcaaa	cactgatgga	gtgcatgaaa	1500
agaaaggagc	ttatcactgt	tttccatatt	gggtcagatg	aacatcaaga	tatagatgta	1560
gcaatactta	ctgcactgct	aaaagggtact	aatgcatctg	catttgacca	gcttatcctt	1620
acattggcat	gggattagat	tgacattgcc	aaaaatcatg	tatttgttta	tggacagcag	1680
tggctgggtg	gactccttga	acaagctatg	cttgatgctc	ttgtaatgga	tagagttgca	1740
tttgtaaaaac	ttcttattga	aaatggagta	agcatgcata	aattccttac	cattccgaga	1800
ctggaagaac	tttaacaacac	taaacaaggt	ccaactaatc	caatgctgtt	tcactcttgt	1860
cgagacgtca	aacaggggaa	tcttcctcca	ggatataaga	tcactctgat	tgatatagga	1920
cttggttattg	aatatctcat	gggagggaacc	tacagatgca	cctatactag	gaaacgtttt	1980
cgattaatat	ataatagtct	tgggtggaaat	aatcggaggt	ctggccgaaa	tacctccagc	2040
agcactcctc	agttgcgaaa	gagtcattgaa	tcttttggca	atagggcaga	taaaaaggaa	2100
aaaatgaggc	ataaccattt	cattaagaca	gcacagccct	tccgaccaa	gattgatata	2160
gttatggaag	aaggaaagaa	gaaaagaacc	aaagatgaaa	ttgtagacat	tgatgatcca	2220

gaaaccaagc	gctttcctta	tccacttaat	gaacttttaa	tttgggcttg	ccttatgaag	2280
aggcaggtca	tggcccgttt	tttatggcaa	catgggtgaag	aatcaatggc	taaagcatta	2340
gttgccgtga	agatctatcg	ttcaatggca	tatgaagcaa	agcagagtga	cctggtagat	2400
gatacttcag	agaactaaa	acagtattcc	aatgattttg	gtcagttggc	cgttgaatta	2460
ttagaacagt	ccttcagaca	agatgaaacc	atggctatga	aattgctcac	ttatgaactg	2520
aagaactgga	gtaattcaac	ctgccttaag	ttagcagttt	cttcaagact	tagacctttt	2580
gtagctcaca	cctgtacaca	aatgttggtta	tctgatatgt	ggatgggaag	gctgaatatg	2640
aggaaaaatt	cctggtagaa	ggtcatacta	agcatttttag	ttccacctgc	catattgctg	2700
ttagagtata	aaactaaggc	tgaaatgtcc	catatcccac	aatctcaaga	tgctcatcag	2760
atgacaatgg	atgacagcga	aaacaacttt	cagaacataa	cagaagagat	ccccatggaa	2820
gtgttttaaag	aagtacggat	tttggtatgt	aatgaaggaa	agaatgagat	ggagatacaa	2880
atgaaatcaa	aaaagcttcc	aattacgcga	aagttttatg	ccttttatca	tgaccaaat	2940
gtaaaattct	ggtttaacac	gttggcatat	ttaggatttc	tgatgcttta	tacatttggtg	3000
gttcttgtag	aaatggaaca	gttaccttca	gttcaagaat	ggattggtat	tgcttatatt	3060
tttacttatg	ccattgagaa	agtccgtgag	atctttatgt	ctgaagctgg	gaaagtaaac	3120
cagaagatta	aagtatggtt	tagtgattac	ttcaacatca	gtgatacaat	tgccataatt	3180
tctttcttca	ttggatttgg	actaagattt	ggagcaaaat	ggaactttgc	aaatgcatat	3240
gataatcatg	tttttgtggc	tggaagatta	atttactgtc	ttaacataat	attttggtat	3300
gtgcgtttgc	tagattttct	agctgtaaat	caacaggcag	gaccttatgt	aatgatgatt	3360
ggaaaaatgg	tgccaatat	gttctacatt	gtagtgatta	tggtctttgt	attacttagt	3420
tttggtgttc	ccagaaaggc	aatactttat	cctcatgaag	caccatcttg	gactcttgct	3480
aaagatatag	tttttcaccc	atactggatg	atttttggtg	aagtttatgc	atacgaaatt	3540
gatgtgtgtg	caaatgattc	tggtatccct	caaactctgtg	gtcctgggac	gtgggtgact	3600
ccatttcttc	aagcagttct	cctctttgta	cagtatatca	ttatggttaa	tcttcttatt	3660
gcatttttca	acaatgtgta	tttacaagtg	aaggcaattt	ccaatattgt	atggaagtac	3720
cagcgtttat	attttattat	ggcttatcat	gagaaaccag	ttctgcctcc	tccacttatc	3780
attccttagcc	atatagtttc	tctgttttgc	tgcatatgta	agagaagaaa	gaaagataag	3840
acttccgatg	gaccaaaact	tttcttaaca	gaagaagatc	aaaagaaaact	tcatgatttt	3900
gaagagcagt	gtgttgaaat	gtatttcaat	gaaaaagatg	acaaatttca	ttctgggagt	3960
gaagagagaa	ttcgtgtcac	ttttgaaaga	gtggaacaga	tgtgcattca	gattaaagaa	4020
gttgagagatc	gtgtcaacta	cataaaaaga	tcattacaat	cattagattc	tcaaattggc	4080
catttgcaag	atctttcagc	cctgacggta	gatacattaa	aaacactcac	tgcccagaaa	4140
gcgtcggaag	ctagcaaaag	tcataatgaa	atcacacgag	aactgagcat	ttccaaacac	4200
ttggctcaaa	accttattga	tgatggctct	gtaagacctt	ctgtatggaa	aaagcatggt	4260
gttgtaaaata	cacttagctc	ctctcttcc	caagggtgac	ttgaaagtaa	taactctttt	4320
cattgtaata	ttttaatgaa	agatgacaaa	gatccccagt	gtaatatatt	tggtcaagac	4380
ttacctgcag	taccccgag	aaaagaattt	aattttccag	aggctgggtc	ctcttctggt	4440
gccttattcc	caagtgtgtg	ttccctcca	gaactgcgac	agagactaca	tggggtagaa	4500
ctcttaaaaa	tatttaataa	aaatcaaaaa	ttaggcagtt	catctactag	cataccacat	4560
ctgtcatccc	caccaaccaa	attttttggt	agtacaccat	ctcagccaag	ttgcaaaaagc	4620
cacttggaat	ctggaaccaa	agatcaagaa	actggttgct	ctaaagctac	agaaggagat	4680
aatacagaat	ttggagcatt	tgtaggacac	agagattagca	tggatttaca	gaggtttaaa	4740
gaaacatcaa	acaagataaa	aatactatcc	aataacaata	cttctgaaaa	cactttgaaa	4800
cgagtgaagt	ctcttgctgg	atttactgac	tgtcacagaa	cttccattcc	tgttcattca	4860
aaacaagcag	aaaaaatcag	tagaaggcca	tctaccgaag	acactcatga	agtagattcc	4920
aaagcagctt	taataccgga	ttgggttaca	gatagaccat	caaacagaga	aatgccatct	4980
gaagaaggaa	cattaaatgg	tctcacttct	ccatttaagc	cagctatgga	tacaaattac	5040
tattattcag	ctgtggaaa	aaataacttg	atgaggttat	cacagagcat	tccatttaca	5100
cctgtgcctc	caagagggga	gcctgtcaca	gtgtatcgtt	tggaagagag	ttcacccaac	5160
atactaaata	acagcatgtc	ttcttggtca	caactaggcc	tctgtgccaa	aatagagttt	5220
ttaagcaaa	aggagatggg	aggagggtta	cgaagagctg	tcaaagtaca	gtgtacgtgg	5280
tcagaacatg	atatacctca	atcagggcac	ctttatatta	tcaaattctt	tcttccagag	5340
gtgggttaata	catgggtcaag	tatttataaa	gaagatacag	ttctgcatct	ctgtctgaga	5400
gaaattcaac	aacagagagc	agcacaaaag	cttacgtttg	cctttaatca	aatgaaacct	5460
aaatccatac	catattctcc	aagggtccct	gaagttttcc	tgctgtattg	ccattcagca	5520
ggacagtggg	ttgctgtgga	agaatgtatg	actggagaat	ttagaaaata	caacaataat	5580
aatggagatg	agattattcc	aactaatact	ctggaagaga	tcatgctagc	ctttagccac	5640
tggacttacg	aatatacaag	aggggagtta	ctggtacttg	atttgcaagg	tgttggtgaa	5700
aatttgactg	acccatctgt	gataaaaagca	gaagaaaaga	gatcctgtga	tattgggtttt	5760
ggcccagcaa	atctaggaga	agatgcaatt	aaaaacttca	gagcaaaaaca	tactgtaat	5820
tcttgctgta	gaaagcttaa	acttccagat	ctgaagagga	atgattatac	gcctgataaa	5880

-40-

attatatatttc	ctcaggatga	gccttcagat	ttgaatcttc	agcctggaaa	ttccaccaaa	5940
gaatcagaat	caactaatc	tggtcgtctg	atgtttataat	attaatatatta	ctgaatcatt	6000
ggttttgcct	gcacctcaca	gaaatgttac	tgtgtcactt	ttccctcggg	aggaaattgt	6060
ttggtaatat	agaaagggtg	atgcaagttg	aatttgctga	ctccagcaca	gttaaaaggt	6120
caatattctt	ttgacctgat	taatcagtc	gaaagtcctt	ataggataga	gctggcagct	6180
gagaaatttt	aaaggtaatt	gataattagt	atttgtaact	ttttaaaggg	ctctttgtat	6240
agcagaggat	ctcatttgac	tttgttttga	tgagggtgat	gccctctctt	atgtggtaca	6300
ataccatttaa	ccaaaggtag	glgtccatgc	agattttatt	ggcagctggt	ttattgccat	6360
tcaactaggg	aaatgaagaa	atcacgcagc	cttttggtta	aatggcagtc	aaaattttcc	6420
tcagtgtatt	tagtgtgttc	agtgatgata	tcactggttc	ccaactagat	gcttggtggc	6480
cacgggaagg	gaaatgactt	gttctaattc	taggttcaca	gaggtatgag	aagcctgaac	6540
tgaagaccat	tttcaagagg	gacggtat	atgaatcagg	gttaggctcc	atatttaaag	6600
atagagccag	tttttttttt	aaatagaacc	caaattgtgt	aaaaatgtta	attgggtttt	6660
ttaaacattg	ttttatcaag	tcactgttaa	gtagaagaaa	gccatggtaa	actgatacat	6720
aacctaaatt	ataaaagcag	aaacctaact	cactcgtcaa	gggaagttac	cttttgagga	6780
aagttaaagt	acttttttcc	ctatctgtat	ctatagaac	aaccagaac	ttacaaactt	6840
ctccaaagat	tttattgatt	gttatatcaa	atcagaatgt	aaacatgaac	tcttgcata	6900
atttaaaatt	gtgttggaac	atttgaacat	gaatgctgtt	tgggtactta	agaaattrat	6960
tcagtnggat	tatcattatg	tganactggc	agattgcagt	gcanccttat	gccaataaaa	7020
tgtaattttar	cagccccaga	tattgttgaa	tattcaacaa	taacaagaaa	agcttttcat	7080
ctaagtttta	tgctttaatt	ttttttcttt	ttttttcttt	ttcttttggt	tccttggtac	7140
taattttta	ttttatttgg	aaggagcag	tataaagctt	atttgtat	agtagtgtat	7200
ctcatagata	cagacaaggc	aagagatgat	aagctgttta	aatagtgtt	aatattgatt	7260
gggggtggg	agaaagaaaa	agtgtattac	ttaaagatac	tatatacskt	ttktatatca	7320
ttaaattctt	aaaagaaatn	naataaattt	attgttttca	aaaaaaaaac	ccnntaaaaa	7380
aaaaaggcg	gccctctag	aggatccctc	gaggggccc			7419

<210> 28

<211> 1865

<212> PRT

<213> Homo Sapiens

<400> 28

Met	Ser	Gln	Lys	Ser	Trp	Ile	Glu	Ser	Thr	Leu	Thr	Lys	Arg	Glu	Cys
1				5					10					15	
Val	Tyr	Ile	Ile	Pro	Ser	Ser	Lys	Asp	Pro	His	Arg	Cys	Leu	Pro	Gly
			20					25					30		
Cys	Gln	Ile	Cys	Gln	Gln	Leu	Val	Arg	Cys	Phe	Cys	Gly	Arg	Leu	Val
		35					40					45			
Lys	Gln	His	Ala	Cys	Phe	Thr	Ala	Ser	Leu	Ala	Met	Lys	Tyr	Ser	Asp
		50				55					60				
Val	Lys	Leu	Gly	Asp	His	Phe	Asn	Gln	Ala	Ile	Glu	Glu	Trp	Ser	Val
65					70					75				80	
Glu	Lys	His	Thr	Glu	Gln	Ser	Pro	Thr	Asp	Ala	Tyr	Gly	Val	Ile	Asn
			85						90					95	
Phe	Gln	Gly	Gly	Ser	His	Ser	Tyr	Arg	Ala	Lys	Tyr	Val	Arg	Leu	Ser
		100						105					110		
Tyr	Asp	Thr	Lys	Pro	Glu	Val	Ile	Leu	Gln	Leu	Leu	Leu	Lys	Glu	Trp
		115					120					125			
Gln	Met	Glu	Leu	Pro	Lys	Leu	Val	Ile	Ser	Val	His	Gly	Gly	Met	Gln
		130				135					140				
Lys	Phe	Glu	Leu	His	Pro	Arg	Ile	Lys	Gln	Leu	Leu	Gly	Lys	Gly	Leu
145					150					155				160	
Ile	Lys	Ala	Ala	Val	Thr	Thr	Gly	Ala	Trp	Ile	Leu	Thr	Gly	Gly	Val
			165						170					175	
Asn	Thr	Gly	Val	Ala	Lys	His	Val	Gly	Asp	Ala	Leu	Lys	Glu	His	Ala
			180					185					190		
Ser	Arg	Ser	Ser	Arg	Lys	Ile	Cys	Thr	Ile	Gly	Ile	Ala	Pro	Trp	Gly
		195					200					205			
Val	Ile	Glu	Asn	Arg	Asn	Asp	Leu	Val	Gly	Arg	Asp	Val	Val	Ala	Pro
		210					215					220			

-41-

Tyr	Gln	Thr	Leu	Leu	Asn	Pro	Leu	Ser	Lys	Leu	Asn	Val	Leu	Asn	Asn
225					230					235					240
Leu	His	Ser	His	Phe	Ile	Leu	Val	Asp	Asp	Gly	Thr	Val	Gly	Lys	Tyr
				245					250					255	
Gly	Ala	Glu	Val	Arg	Leu	Arg	Arg	Glu	Leu	Glu	Lys	Thr	Ile	Asn	Gln
			260					265					270		
Gln	Arg	Ile	His	Ala	Arg	Ile	Gly	Gln	Gly	Val	Pro	Val	Val	Ala	Leu
		275					280					285			
Ile	Phe	Glu	Gly	Gly	Pro	Asn	Val	Ile	Leu	Thr	Val	Leu	Glu	Tyr	Leu
	290					295					300				
Gln	Glu	Ser	Pro	Pro	Val	Pro	Val	Val	Val	Cys	Glu	Gly	Thr	Gly	Arg
305					310					315					320
Ala	Ala	Asp	Leu	Leu	Ala	Tyr	Ile	His	Lys	Gln	Thr	Glu	Glu	Gly	Gly
				325					330					335	
Asn	Leu	Pro	Asp	Ala	Ala	Glu	Pro	Asp	Ile	Ile	Ser	Thr	Ile	Lys	Lys
			340					345					350		
Thr	Phe	Asn	Phe	Gly	Gln	Asn	Glu	Ala	Leu	His	Leu	Phe	Gln	Thr	Leu
	355						360					365			
Met	Glu	Cys	Met	Lys	Arg	Lys	Glu	Leu	Ile	Thr	Val	Phe	His	Ile	Gly
	370					375					380				
Ser	Asp	Glu	His	Gln	Asp	Ile	Asp	Val	Ala	Ile	Leu	Thr	Ala	Leu	Leu
385					390					395					400
Lys	Gly	Thr	Asn	Ala	Ser	Ala	Phe	Asp	Gln	Leu	Ile	Leu	Thr	Leu	Ala
				405					410					415	
Trp	Asp	Arg	Val	Asp	Ile	Ala	Lys	Asn	His	Val	Phe	Val	Tyr	Gly	Gln
			420					425					430		
Gln	Trp	Leu	Val	Gly	Ser	Leu	Glu	Gln	Ala	Met	Leu	Asp	Ala	Leu	Val
		435					440					445			
Met	Asp	Arg	Val	Ala	Phe	Val	Lys	Leu	Leu	Ile	Glu	Asn	Gly	Val	Ser
	450					455					460				
Met	His	Lys	Phe	Leu	Thr	Ile	Pro	Arg	Leu	Glu	Glu	Leu	Tyr	Asn	Thr
465					470					475					480
Lys	Gln	Gly	Pro	Thr	Asn	Pro	Met	Leu	Phe	His	Leu	Val	Arg	Asp	Val
				485					490					495	
Lys	Gln	Gly	Asn	Leu	Pro	Pro	Gly	Tyr	Lys	Ile	Thr	Leu	Ile	Asp	Ile
			500					505					510		
Gly	Leu	Val	Ile	Glu	Tyr	Leu	Met	Gly	Gly	Thr	Tyr	Arg	Cys	Thr	Tyr
		515					520					525			
Thr	Arg	Lys	Arg	Phe	Arg	Leu	Ile	Tyr	Asn	Ser	Leu	Gly	Gly	Asn	Asn
	530					535					540				
Arg	Arg	Ser	Gly	Arg	Asn	Thr	Ser	Ser	Ser	Thr	Pro	Gln	Leu	Arg	Lys
545					550					555					560
Ser	His	Glu	Ser	Phe	Gly	Asn	Arg	Ala	Asp	Lys	Lys	Glu	Lys	Met	Arg
				565					570					575	
His	Asn	His	Phe	Ile	Lys	Thr	Ala	Gln	Pro	Phe	Arg	Pro	Lys	Ile	Asp
			580					585					590		
Thr	Val	Met	Glu	Glu	Gly	Lys	Lys	Lys	Arg	Thr	Lys	Asp	Glu	Ile	Val
		595					600					605			
Asp	Ile	Asp	Asp	Pro	Glu	Thr	Lys	Arg	Phe	Pro	Tyr	Pro	Leu	Asn	Glu
	610					615					620				
Leu	Leu	Ile	Trp	Ala	Cys	Leu	Met	Lys	Arg	Gln	Val	Met	Ala	Arg	Phe
625					630					635					640
Leu	Trp	Gln	His	Gly	Glu	Glu	Ser	Met	Ala	Lys	Ala	Leu	Val	Ala	Cys
				645					650					655	
Lys	Ile	Tyr	Arg	Ser	Met	Ala	Tyr	Glu	Ala	Lys	Gln	Ser	Asp	Leu	Val
			660					665					670		
Asp	Asp	Thr	Ser	Glu	Glu	Leu	Lys	Gln	Tyr	Ser	Asn	Asp	Phe	Gly	Gln
		675					680					685			
Leu	Ala	Val	Glu	Leu	Leu	Glu	Gln	Ser	Phe	Arg	Gln	Asp	Glu	Thr	Met
	690					695					700				
Ala	Met	Lys	Leu	Leu	Thr	Tyr	Glu	Leu	Lys	Asn	Trp	Ser	Asn	Ser	Thr

-42-

705					710					715				720	
Cys	Leu	Lys	Leu	Ala	Val	Ser	Ser	Arg	Leu	Arg	Pro	Phe	Val	Ala	His
				725					730					735	
Thr	Cys	Thr	Gln	Met	Leu	Leu	Ser	Asp	Met	Trp	Met	Gly	Arg	Leu	Asn
			740					745					750		
Met	Arg	Lys	Asn	Ser	Trp	Tyr	Lys	Val	Ile	Leu	Ser	Ile	Leu	Val	Pro
		755					760					765			
Pro	Ala	Ile	Leu	Leu	Leu	Glu	Tyr	Lys	Thr	Lys	Ala	Glu	Met	Ser	His
		770				775					780				
Ile	Pro	Gln	Ser	Gln	Asp	Ala	His	Gln	Met	Thr	Met	Asp	Asp	Ser	Glu
785					790					795					800
Asn	Asn	Phe	Gln	Asn	Ile	Thr	Glu	Glu	Ile	Pro	Met	Glu	Val	Phe	Lys
				805					810					815	
Glu	Val	Arg	Ile	Leu	Asp	Ser	Asn	Glu	Gly	Lys	Asn	Glu	Met	Glu	Ile
			820					825					830		
Gln	Met	Lys	Ser	Lys	Lys	Leu	Pro	Ile	Thr	Arg	Lys	Phe	Tyr	Ala	Phe
		835					840					845			
Tyr	His	Ala	Pro	Ile	Val	Lys	Phe	Trp	Phe	Asn	Thr	Leu	Ala	Tyr	Leu
	850					855					860				
Gly	Phe	Leu	Met	Leu	Tyr	Thr	Phe	Val	Val	Leu	Val	Gln	Met	Glu	Gln
865					870					875					880
Leu	Pro	Ser	Val	Gln	Glu	Trp	Ile	Val	Ile	Ala	Tyr	Ile	Phe	Thr	Tyr
				885					890					895	
Ala	Ile	Glu	Lys	Val	Arg	Glu	Ile	Phe	Met	Ser	Glu	Ala	Gly	Lys	Val
		900						905					910		
Asn	Gln	Lys	Ile	Lys	Val	Trp	Phe	Ser	Asp	Tyr	Phe	Asn	Ile	Ser	Asp
		915					920					925			
Thr	Ile	Ala	Ile	Ile	Ser	Phe	Phe	Ile	Gly	Phe	Gly	Leu	Arg	Phe	Gly
	930					935					940				
Ala	Lys	Trp	Asn	Phe	Ala	Asn	Ala	Tyr	Asp	Asn	His	Val	Phe	Val	Ala
945					950				955						960
Gly	Arg	Leu	Ile	Tyr	Cys	Leu	Asn	Ile	Ile	Phe	Trp	Tyr	Val	Arg	Leu
				965					970					975	
Leu	Asp	Phe	Leu	Ala	Val	Asn	Gln	Gln	Ala	Gly	Pro	Tyr	Val	Met	Met
		980						985					990		
Ile	Gly	Lys	Met	Val	Ala	Asn	Met	Phe	Tyr	Ile	Val	Val	Ile	Met	Ala
	995						1000					1005			
Leu	Val	Leu	Leu	Ser	Phe	Gly	Val	Pro	Arg	Lys	Ala	Ile	Leu	Tyr	Pro
	1010					1015					1020				
His	Glu	Ala	Pro	Ser	Trp	Thr	Leu	Ala	Lys	Asp	Ile	Val	Phe	His	Pro
1025					1030					1035					1040
Tyr	Trp	Met	Ile	Phe	Gly	Glu	Val	Tyr	Ala	Tyr	Glu	Ile	Asp	Val	Cys
				1045					1050					1055	
Ala	Asn	Asp	Ser	Val	Ile	Pro	Gln	Ile	Cys	Gly	Pro	Gly	Thr	Trp	Leu
		1060						1065					1070		
Thr	Pro	Phe	Leu	Gln	Ala	Val	Tyr	Leu	Phe	Val	Gln	Tyr	Ile	Ile	Met
		1075					1080					1085			
Val	Asn	Leu	Leu	Ile	Ala	Phe	Phe	Asn	Asn	Val	Tyr	Leu	Gln	Val	Lys
	1090					1095					1100				
Ala	Ile	Ser	Asn	Ile	Val	Trp	Lys	Tyr	Gln	Arg	Tyr	His	Phe	Ile	Met
1105					1110					1115					1120
Ala	Tyr	His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile	Leu	Ser
				1125					1130					1135	
His	Ile	Val	Ser	Leu	Phe	Cys	Cys	Ile	Cys	Lys	Arg	Arg	Lys	Lys	Asp
		1140						1145					1150		
Lys	Thr	Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp	Gln	Lys
		1155					1160					1165			
Lys	Leu	His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe	Asn	Glu
	1170					1175					1180				
Lys	Asp	Asp	Lys	Phe	His	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg	Val	Thr
1185					1190					1195					1200

Phe	Glu	Arg	Val	Glu	Gln	Met	Cys	Ile	Gln	Ile	Lys	Glu	Val	Gly	Asp		
				1205					1210						1215		
Arg	Val	Asn	Tyr	Ile	Lys	Arg	Ser	Leu	Gln	Ser	Leu	Asp	Ser	Gln	Ile		
				1220					1225						1230		
Gly	His	Leu	Gln	Asp	Leu	Ser	Ala	Leu	Thr	Val	Asp	Thr	Leu	Lys	Thr		
				1235					1240						1245		
Leu	Thr	Ala	Gln	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn	Glu	Ile		
				1250					1255						1260		
Thr	Arg	Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn	Leu	Ile	Asp		
				1265					1270						1280		
Asp	Gly	Pro	Val	Arg	Pro	Ser	Val	Trp	Lys	Lys	His	Gly	Val	Val	Asn		
				1285					1290						1295		
Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Leu	Glu	Ser	Asn	Asn	Pro		
				1300					1305						1310		
Phe	His	Cys	Asn	Ile	Leu	Met	Lys	Asp	Asp	Lys	Asp	Pro	Gln	Cys	Asn		
				1315					1320						1325		
Ile	Phe	Gly	Gln	Asp	Leu	Pro	Ala	Val	Pro	Gln	Arg	Lys	Glu	Phe	Asn		
				1330					1335						1340		
Phe	Pro	Glu	Ala	Gly	Ser	Ser	Ser	Gly	Ala	Leu	Phe	Pro	Ser	Ala	Val		
				1345					1350						1360		
Ser	Pro	Pro	Glu	Leu	Arg	Gln	Arg	Leu	His	Gly	Val	Glu	Leu	Leu	Lys		
				1365					1370						1375		
Ile	Phe	Asn	Lys	Asn	Gln	Lys	Leu	Gly	Ser	Ser	Ser	Thr	Ser	Ile	Pro		
				1380					1385						1390		
His	Leu	Ser	Ser	Pro	Pro	Thr	Lys	Phe	Phe	Val	Ser	Thr	Pro	Ser	Gln		
				1395					1400						1405		
Pro	Ser	Cys	Lys	Ser	His	Leu	Glu	Thr	Gly	Thr	Lys	Asp	Gln	Glu	Thr		
				1410					1415						1420		
Val	Cys	Ser	Lys	Ala	Thr	Glu	Gly	Asp	Asn	Thr	Glu	Phe	Gly	Ala	Phe		
				1425					1430						1440		
Val	Gly	His	Arg	Asp	Ser	Met	Asp	Leu	Gln	Arg	Phe	Lys	Glu	Thr	Ser		
				1445					1450						1455		
Asn	Lys	Ile	Lys	Ile	Leu	Ser	Asn	Asn	Asn	Thr	Ser	Glu	Asn	Thr	Leu		
				1460					1465						1470		
Lys	Arg	Val	Ser	Ser	Leu	Ala	Gly	Phe	Thr	Asp	Cys	His	Arg	Thr	Ser		
				1475					1480						1485		
Ile	Pro	Val	His	Ser	Lys	Gln	Ala	Glu	Lys	Ile	Ser	Arg	Arg	Pro	Ser		
				1490					1495						1500		
Thr	Glu	Asp	Thr	His	Glu	Val	Asp	Ser	Lys	Ala	Ala	Leu	Ile	Pro	Asp		
				1505					1510						1520		
Trp	Leu	Gln	Asp	Arg	Pro	Ser	Asn	Arg	Glu	Met	Pro	Ser	Glu	Glu	Gly		
				1525					1530						1535		
Thr	Leu	Asn	Gly	Leu	Thr	Ser	Pro	Phe	Lys	Pro	Ala	Met	Asp	Thr	Asn		
				1540					1545						1550		
Tyr	Tyr	Tyr	Ser	Ala	Val	Glu	Arg	Asn	Asn	Leu	Met	Arg	Leu	Ser	Gln		
				1555					1560						1565		
Ser	Ile	Pro	Phe	Thr	Pro	Val	Pro	Pro	Arg	Gly	Glu	Pro	Val	Thr	Val		
				1570					1575						1580		
Tyr	Arg	Leu	Glu	Glu	Ser	Ser	Pro	Asn	Ile	Leu	Asn	Asn	Ser	Met	Ser		
				1585					1590						1600		
Ser	Trp	Ser	Gln	Leu	Gly	Leu	Cys	Ala	Lys	Ile	Glu	Phe	Leu	Ser	Lys		
				1605					1610						1615		
Glu	Glu	Met	Gly	Gly	Gly	Leu	Arg	Arg	Ala	Val	Lys	Val	Gln	Cys	Thr		
				1620					1625						1630		
Trp	Ser	Glu	His	Asp	Ile	Leu	Lys	Ser	Gly	His	Leu	Tyr	Ile	Ile	Lys		
				1635					1640						1645		
Ser	Phe	Leu	Pro	Glu	Val	Val	Asn	Thr	Trp	Ser	Ser	Ile	Tyr	Lys	Glu		
				1650					1655						1660		
Asp	Thr	Val	Leu	His	Leu	Cys	Leu	Arg	Glu	Ile	Gln	Gln	Gln	Arg	Ala		
				1665					1670						1680		
Ala	Gln	Lys	Leu	Thr	Phe	Ala	Phe	Asn	Gln	Met	Lys	Pro	Lys	Ser	Ile		

-44-

1685	1690	1695
Pro Tyr Ser	Pro Arg Phe Leu Glu Val Phe Leu Leu Tyr Cys His Ser	
1700	1705	1710
Ala Gly Gln Trp Phe Ala Val Glu Glu Cys Met Thr Gly Glu Phe Arg		
1715	1720	1725
Lys Tyr Asn Asn Asn Asn Gly Asp Glu Ile Ile Pro Thr Asn Thr Leu		
1730	1735	1740
Glu Glu Ile Met Leu Ala Phe Ser His Trp Thr Tyr Glu Tyr Thr Arg		
1745	1750	1755
Gly Glu Leu Leu Val Leu Asp Leu Gln Gly Val Gly Glu Asn Leu Thr		
1765	1770	1775
Asp Pro Ser Val Ile Lys Ala Glu Glu Lys Arg Ser Cys Asp Met Val		
1780	1785	1790
Phe Gly Pro Ala Asn Leu Gly Glu Asp Ala Ile Lys Asn Phe Arg Ala		
1795	1800	1805
Lys His His Cys Asn Ser Cys Cys Arg Lys Leu Lys Leu Pro Asp Leu		
1810	1815	1820
Lys Arg Asn Asp Tyr Thr Pro Asp Lys Ile Ile Phe Pro Gln Asp Glu		
1825	1830	1835
Pro Ser Asp Leu Asn Leu Gln Pro Gly Asn Ser Thr Lys Glu Ser Glu		
1845	1850	1855
Ser Thr Asn Ser Val Arg Leu Met Leu		
1860	1865	

<210> 29
 <211> 4061
 <212> DNA
 <213> Homo Sapiens

<400> 29

ggtctggaag	cagagccggc	ggagggagcg	ccggggccct	gggctgcagg	aggttgccgc	60
ggccgcggca	gcatgggtgt	gccggagaag	gagcagagct	ggatcccca	gatcttcaag	120
aagaagacct	gcacgacgtt	catagttgac	tccacagatc	cgggagggac	cttgtgccag	180
tgtgggcgcc	cccggaccgc	ccaccccgca	gtggccatgg	aggatgcctt	cggggcagcc	240
gtggtgaccg	tgtgggacag	cgatgcacac	accacggaga	agcccaccga	tgccctacga	300
gagctggact	tcacgggggc	cggccgcaag	cacagcaatt	tcctccggct	ctctgaccga	360
acggatccag	ctgcagttta	tagtctggtc	acacgcacat	ggggcttccg	tgccccgaac	420
ctggtggtgt	cagtgcctggg	gggatcgggg	ggccccgtcc	tccagacctg	gctgcaggac	480
ctgctgcgtc	gtgggctggg	gcgggctgcc	cagagcacag	gagcctggat	tgctactggg	540
ggtctgcaca	cgggcatcgg	ccggcatggt	ggtgtggctg	tacgggacca	tcagatggcc	600
agcactgggg	gcaccaaggt	ggtggccatt	ggtgtggccc	cctgggggtg	ggtccggaat	660
agagacaccc	tcatacaacc	caagggtctg	ttccctgcga	ggtaccgggtg	gcgcgggtgac	720
ccggaggacg	gggtccagtt	tcccctggac	tacaactact	cggccttctt	cctggtggac	780
gacggcacac	acggctgcct	ggggggcgag	aaccgcttcc	gcttgccgct	ggagtcctac	840
atctcacagc	agaagacggg	cgtgggaggg	actggaattg	acatccctgt	cctgctcctc	900
ctgattgatg	gtgatgagaa	gatgttgacg	cgaatagaga	acgccaccca	ggctcagctc	960
ccatgtctcc	tcgtggctgg	ctcaggggga	gctgcggact	gcctggcgga	gaccctggaa	1020
gacactctgg	ccccaggag	tgggggagcc	aggcaaggcg	aagcccagga	tcgaatcagg	1080
cgtttctttc	ccaaagggga	ccttgaggtc	ctgcaggccc	aggtggagag	gattatgacc	1140
cggaaaggagc	tcctgacagt	ctattcttct	gaggatgggt	ctgaggaatt	cgagaccata	1200
gttttgaagg	cccttgtaga	ggcctgtggg	agctcggagg	cctcagccta	cctggatgag	1260
ctgcgttttg	ctgtggcttg	gaaccgcgtg	gacattgccc	agagtgaact	ctttcggggg	1320
gacatccaat	ggcggtcctt	ccatctcgaa	gcttccctca	tgagcgcct	gctgaatgac	1380
cggcctgagt	tcgtgcgctt	gctcatttcc	cacggcctca	gcctgggcca	cttcctgacc	1440
ccgatgcgcc	tgccccaaact	ctacagcgcg	gcgccctcca	actcgctcat	ccgcaacctt	1500
ttggaccagg	cgtcccacag	cgcaggcacc	aaagccccag	ccctaaaagg	gggagctgcg	1560
gagctccggc	ccoctgacgt	ggggcatgtg	ctgaggatgc	tgctggggaa	gatgtgcgcg	1620
ccgaggtacc	cctccggggg	cgccctgggac	cctcacccag	gccagggctt	cggggagagc	1680
atgtatctgc	tctcggacaa	ggccacctcg	ccgctctcgc	tggtatgctg	cctcggggcag	1740
gccccctgga	gcgacctgct	tctttgggca	ctgttgctga	acagggcaca	gatggccatg	1800
tacttctggg	agatgggttc	caatgcagtt	tcctcagctc	ttggggcctg	tttgctgctc	1860

-45-

cggtgatgg	cacgcctgga	gcctgacgct	gaggaggcag	cacggaggaa	agacctggcg	1920
ttcaagtttg	aggggatggg	cggtgacctc	tttggcgagt	gctatcgag	cagtggagtg	1980
agggctgccc	gcctcctcct	ccgtcgctgc	ccgctctggg	gggatgccac	ttgcctccag	2040
ctggccatgc	aagctgacgc	ccgtgccttc	tttgcccagg	atgggggtaca	gtctctgctg	2100
acacagaagt	ggtggggaga	tatggccagc	actacaccca	tctggggcct	ggttctcgcc	2160
ttctttttgcc	ctccactcat	ctacacccgc	ctcatcacct	tcaggaaatc	agaagaggag	2220
cccacacggg	aggagctaga	gtttgacatg	gatagtgtca	ttaatgggga	agggcctgtc	2280
gggacggcgg	accagccga	gaagacggcg	ctgggggtcc	cgcgccagtc	gggccgtccg	2340
ggttgctgcg	ggggccgctg	cgggggggcg	cggtgcctac	gccgctgggt	ccacttctgg	2400
ggcgcccgcg	tgaccatctt	catgggcaac	gtggctagct	acctgctgtt	cctgctgctt	2460
ttctcgcggg	tgctgctcgt	ggatttccag	ccggcgccgc	ccggctccct	ggagctgctg	2520
ctctattttct	gggctttcac	gctgctgtgc	gaggaaactgc	gccagggcct	gagcggaggc	2580
gggggcagcc	tcgccagcgg	gggccccggg	cctggccatg	cctcactgag	ccagcgcctg	2640
cgctcttacc	tcgccgacag	ctggaaccag	tgcgacctag	tggctctcac	ctgcttcctc	2700
ctgggcgtgg	gctgccggct	gaccccggtt	ttgtaccacc	tgggcccgcac	tgctcctctg	2760
atcgacttca	tggtttttcac	ggtgcggctg	cttcacatct	tcacgggtcaa	caaacagctg	2820
gggcccaga	tcgtcatcgt	gagcaagatg	atgaaggacg	tggtctttct	cctcttcttc	2880
ctcggcgtgt	ggctggtagc	ctatggcggtg	gccacggagg	ggctcctgag	gccacgggac	2940
agtgaacttc	caagtatcct	gcgcgcgctc	ttctaccgtc	cctacctgca	gatcttcggg	3000
cagattcccc	aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	ctcgctcgag	3060
cccggtcttct	gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	3120
aactggctgg	tggtgctgct	cctcgctcatc	ttcctgctcg	tggccaacat	cctgctggtc	3180
aacttgctca	ttgccatggt	cagttacaca	ttcggcaaaag	tacagggcaa	cagcgatctc	3240
tactggaagg	cgcagcggtta	ccgcctcatc	cgggaattcc	actctcggcc	cgcgctggcc	3300
ccgcccttta	tcgtcatctc	ccacttgctc	ctcctgctca	ggcaattgtg	caggcgaccc	3360
cggagccccc	agccgtcctc	cccggccctc	gagcatttcc	gggtttacct	ttctaaggaa	3420
gccgagcgga	agctgctaac	gtgggaatcg	gtgcataagg	agaactttct	gctggcacgc	3480
gctagggaca	agcgggagag	cgactccgag	cgtctgaagc	gcacgtccca	gaaggtggac	3540
ttggcactga	aacagctggg	acacatccgc	gagtagcaac	agcgcctgaa	agtgcaggag	3600
cgggaggtcc	agcagtgtag	ccgcgtcctg	gggtgggtgg	ccgaggccct	gagccgctct	3660
gccttgctgc	ccccagggtg	gccgccaccc	cctgacctgc	ctgggtccaa	agactgagcc	3720
ctgctggcgg	acttcaagg	gaagccccca	caggggattt	tgctcctaga	gtaaggctca	3780
tctgggctc	ggcccccgca	cctggtggcc	ttgtccttga	ggtgagcccc	atgtccatct	3840
gggccactgt	caggaccacc	tttgggagtg	tcctccttac	aaaccacagc	atgcccggt	3900
cctccagaa	ccagtcccag	cctgggagga	tcaaggcctg	gatcccgggc	cgttatccat	3960
ctggaggctg	cagggtcctt	ggggtaacag	ggaccacaga	cccctcacca	ctcacagatt	4020
cctcacactg	gggaaataaa	gccatttcag	aggaaaaaaa	a		4061

<210> 30

<211> 1214

<212> PRT

<213> Homo Sapiens

<400> 30

Met	Val	Val	Pro	Glu	Lys	Glu	Gln	Ser	Trp	Ile	Pro	Lys	Ile	Phe	Lys
1				5					10					15	
Lys	Lys	Thr	Cys	Thr	Thr	Phe	Ile	Val	Asp	Ser	Thr	Asp	Pro	Gly	Gly
			20					25					30		
Thr	Leu	Cys	Gln	Cys	Gly	Arg	Pro	Arg	Thr	Ala	His	Pro	Ala	Val	Ala
		35					40					45			
Met	Glu	Asp	Ala	Phe	Gly	Ala	Ala	Val	Val	Thr	Val	Trp	Asp	Ser	Asp
	50					55					60				
Ala	His	Thr	Thr	Glu	Lys	Pro	Thr	Asp	Ala	Tyr	Gly	Glu	Leu	Asp	Phe
65					70					75				80	
Thr	Gly	Ala	Gly	Arg	Lys	His	Ser	Asn	Phe	Leu	Arg	Leu	Ser	Asp	Arg
				85					90					95	
Thr	Asp	Pro	Ala	Ala	Val	Tyr	Ser	Leu	Val	Thr	Arg	Thr	Trp	Gly	Phe
			100					105					110		
Arg	Ala	Pro	Asn	Leu	Val	Val	Ser	Val	Leu	Gly	Gly	Ser	Gly	Gly	Pro
		115					120					125			
Val	Leu	Gln	Thr	Trp	Leu	Gln	Asp	Leu	Leu	Arg	Arg	Gly	Leu	Val	Arg

-46-

130	135	140
Ala Ala Gln Ser Thr Gly	Ala Trp Ile Val Thr Gly Gly Leu His Thr	
145	150	155
Gly Ile Gly Arg His Val Gly Val Ala Val Arg Asp His Gln Met Ala		160
	165	170
Ser Thr Gly Gly Thr Lys Val Val Ala Met Gly Val Ala Pro Trp Gly		175
	180	185
Val Val Arg Asn Arg Asp Thr Leu Ile Asn Pro Lys Gly Ser Phe Pro		190
	195	200
Ala Arg Tyr Arg Trp Arg Gly Asp Pro Glu Asp Gly Val Gln Phe Pro		205
	210	215
Leu Asp Tyr Asn Tyr Ser Ala Phe Phe Leu Val Asp Asp Gly Thr His		220
225	230	235
Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser Tyr		240
	245	250
Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp Ile Pro		255
	260	265
Val Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu Thr Arg Ile		270
	275	280
Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu Val Ala Gly Ser		285
	290	295
Gly Gly Ala Ala Asp Cys Leu Ala Glu Thr Leu Glu Asp Thr Leu Ala		300
305	310	315
Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu Ala Arg Asp Arg Ile Arg		320
	325	330
Arg Phe Phe Pro Lys Gly Asp Leu Glu Val Leu Gln Ala Gln Val Glu		335
	340	345
Arg Ile Met Thr Arg Lys Glu Leu Leu Thr Val Tyr Ser Ser Glu Asp		350
	355	360
Gly Ser Glu Glu Phe Glu Thr Ile Val Leu Lys Ala Leu Val Lys Ala		365
	370	375
Cys Gly Ser Ser Glu Ala Ser Ala Tyr Leu Asp Glu Leu Arg Leu Ala		380
385	390	395
Val Ala Trp Asn Arg Val Asp Ile Ala Gln Ser Glu Leu Phe Arg Gly		400
	405	410
Asp Ile Gln Trp Arg Ser Phe His Leu Glu Ala Ser Leu Met Asp Ala		415
	420	425
Leu Leu Asn Asp Arg Pro Glu Phe Val Arg Leu Leu Ile Ser His Gly		430
	435	440
Leu Ser Leu Gly His Phe Leu Thr Pro Met Arg Leu Ala Gln Leu Tyr		445
	450	455
Ser Ala Ala Pro Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp Gln Ala		460
465	470	475
Ser His Ser Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly Ala Ala		480
	485	490
Glu Leu Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu Leu Gly		495
	500	505
Lys Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp Asp Pro His		510
	515	520
Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu Ser Asp Lys Ala		525
	530	535
Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly Gln Ala Pro Trp Ser		540
545	550	555
Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn Arg Ala Gln Met Ala Met		560
	565	570
Tyr Phe Trp Glu Met Gly Ser Asn Ala Val Ser Ser Ala Leu Gly Ala		575
	580	585
Cys Leu Leu Leu Arg Val Met Ala Arg Leu Glu Pro Asp Ala Glu Glu		590
	595	600
Ala Ala Arg Arg Lys Asp Leu Ala Phe Lys Phe Glu Gly Met Gly Val		605
	610	615
		620

-47-

Asp	Leu	Phe	Gly	Glu	Cys	Tyr	Arg	Ser	Ser	Glu	Val	Arg	Ala	Ala	Arg
625					630					635					640
Leu	Leu	Leu	Arg	Arg	Cys	Pro	Leu	Trp	Gly	Asp	Ala	Thr	Cys	Leu	Gln
				645					650					655	
Leu	Ala	Met	Gln	Ala	Asp	Ala	Arg	Ala	Phe	Phe	Ala	Gln	Asp	Gly	Val
			660					665					670		
Gln	Ser	Leu	Leu	Thr	Gln	Lys	Trp	Trp	Gly	Asp	Met	Ala	Ser	Thr	Thr
		675					680					685			
Pro	Ile	Trp	Ala	Leu	Val	Leu	Ala	Phe	Phe	Cys	Pro	Pro	Leu	Ile	Tyr
	690					695					700				
Thr	Arg	Leu	Ile	Thr	Phe	Arg	Lys	Ser	Glu	Glu	Glu	Pro	Thr	Arg	Glu
705					710					715					720
Glu	Leu	Glu	Phe	Asp	Met	Asp	Ser	Val	Ile	Asn	Gly	Glu	Gly	Pro	Val
				725					730					735	
Gly	Thr	Ala	Asp	Pro	Ala	Glu	Lys	Thr	Pro	Leu	Gly	Val	Pro	Arg	Gln
			740					745					750		
Ser	Gly	Arg	Pro	Gly	Cys	Cys	Gly	Gly	Arg	Cys	Gly	Gly	Arg	Arg	Cys
		755					760					765			
Leu	Arg	Arg	Trp	Phe	His	Phe	Trp	Gly	Ala	Pro	Val	Thr	Ile	Phe	Met
	770					775					780				
Gly	Asn	Val	Val	Ser	Tyr	Leu	Leu	Phe	Leu	Leu	Leu	Phe	Ser	Arg	Val
785					790					795					800
Leu	Leu	Val	Asp	Phe	Gln	Pro	Ala	Pro	Pro	Gly	Ser	Leu	Glu	Leu	Leu
				805					810					815	
Leu	Tyr	Phe	Trp	Ala	Phe	Thr	Leu	Leu	Cys	Glu	Glu	Leu	Arg	Gln	Gly
			820					825					830		
Leu	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Ala	Ser	Gly	Gly	Pro	Gly	Pro	Gly
		835					840					845			
His	Ala	Ser	Leu	Ser	Gln	Arg	Leu	Arg	Leu	Tyr	Leu	Ala	Asp	Ser	Trp
	850					855					860				
Asn	Gln	Cys	Asp	Leu	Val	Ala	Leu	Thr	Cys	Phe	Leu	Leu	Gly	Val	Gly
865					870					875					880
Cys	Arg	Leu	Thr	Pro	Gly	Leu	Tyr	His	Leu	Gly	Arg	Thr	Val	Leu	Cys
				885					890					895	
Ile	Asp	Phe	Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val
			900					905					910		
Asn	Lys	Gln	Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys
		915					920					925			
Asp	Val	Phe	Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr
	930					935					940				
Gly	Val	Ala	Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro
945					950					955					960
Ser	Ile	Leu	Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly
				965					970					975	
Gln	Ile	Pro	Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn
			980					985					990		
Cys	Ser	Ser	Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala
		995					1000					1005			
Gly	Thr	Cys	Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu
	1010					1015					1020				
Val	Ile	Phe	Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile
1025					1030					1035					1040
Ala	Met	Phe	Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	Asp	Leu
				1045					1050					1055	
Tyr	Trp	Lys	Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg
			1060					1065					1070		
Pro	Ala	Leu	Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	Leu	Leu
		1075					1080					1085			
Leu	Arg	Gln	Leu	Cys	Arg	Arg	Pro	Arg	Ser	Pro	Gln	Pro	Ser	Ser	Pro
	1090					1095					1100				
Ala	Leu	Glu	His	Phe	Arg	Val	Tyr	Leu	Ser	Lys	Glu	Ala	Glu	Arg	Lys

-48-

1105	1110	1115	1120
Leu Leu Thr Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg			
	1125	1130	1135
Ala Arg Asp Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser			
	1140	1145	1150
Gln Lys Val Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr			
	1155	1160	1165
Glu Gln Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg			
	1170	1175	1180
Val Leu Gly Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro			
1185	1190	1195	1200
Pro Gly Gly Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp			
	1205	1210	

<210> 31
 <211> 4646
 <212> DNA
 <213> Homo Sapiens

<400> 31

tcgacccacg	cgctccgcca	cgcgctccg	cacgcgtccg	cccacgcgtc	cgccccacgcg	60
tccgcccacg	cgctccgggt	gaaagmramy	cmvgcktsms	aaaaacgcgtc	acttaggaaa	120
agatgtcctt	tggggcagcc	aggctcagca	tgaggaacag	aaggaatgac	actctggaca	180
gcacccggac	cctgtactcc	agcgcgcttc	ggagcacaga	cttgtcttac	agtgaagcg	240
acttggtgaa	ttttattcaa	gcaaatttta	agaaacgaga	atgtgtcttc	tttaccaaag	300
attccaaggc	cacggagaat	gtgtgcaagt	gtggctatgc	ccagagccag	cacatggaag	360
gcacccagat	caaccaaagt	gagaaatgga	actacaagaa	acacaccaag	gaatttccta	420
ccgacgcctt	tggggatatt	cagtttgaga	cactggggaa	gaaaggggaag	tatatacgtc	480
tgtcctgcga	cacggacgcg	gaaatccttt	acgagctgct	gacccagcac	tggcacctga	540
aaacacccaa	cctggtcatt	tctgtgaccg	ggggcgccaa	gaacttcgcc	ctgaagccgc	600
gcctgcgcaa	gatcttcagc	cggtcatct	acatcgcgca	gtccaaagggt	gcttggtatc	660
tcacgggagg	caccatttat	ggcctgatga	agtcactcgg	ggaggtgggtg	gagataaca	720
ccatcagcag	gagttcagag	gagaatattg	tggccattgg	catagcagct	tggggcattg	780
tctccaaccg	ggacaccctc	atcaggaatt	gcgatgctga	gggctatttt	ttagcccgat	840
accttatgga	tgacttcaca	agagatccac	tgtgtatcct	ggacaacaac	cacacacatt	900
tgctgctcgt	ggacaatggc	tgtcatggac	atcccactgt	cgaagcaaag	ctccggaatc	960
agctagagaa	gtatatctct	gagcgcacta	ttcaagattc	caactatgggt	ggcaagatcc	1020
ccattgtgtg	ttttgcccac	ggaggtggaa	aagagacttt	gaaagccatc	aatacctcca	1080
tcaaaaataa	aattccttgt	gtggtgggtg	aaggctcggg	ccagatcgct	gaggtgatcg	1140
ctagcctggt	ggaggtggag	gatgccctga	catcttctgc	cgctcaaggag	aagtgtgtgc	1200
gctttttacc	ccgcacgggtg	tcccggctgc	ctgaggagga	gactgagagt	tggatcaaat	1260
ggctcaaaga	aattctcgaa	tgttctcacc	tattaacagt	tattaaaatg	gaagaagctg	1320
gggatgaaat	tgtgagcaat	gccatctcct	acgtctctata	caaagccttc	agcaccagtg	1380
agcaagacaa	ggataactgg	aatgggcagc	tgaagcttct	gctggagtg	aaccagctgg	1440
acttagccaa	tgatgagatt	ttcaccaatg	accgccgatg	ggagtctgct	gaccttcaag	1500
aagtcattgt	tacggctctc	ataaaggaca	gacccaagtt	tgtccgcctc	tttctggaga	1560
atggcttgaa	cctacggaag	tttctcacc	atgatgtcct	cactgaactc	ttctccaacc	1620
acttcagcac	gcttgtgtac	cggaatctgc	agatcgccaa	gaattcctat	aatgatgcc	1680
tcctcacgtt	tgtctggaaa	ctggttgcca	acttccgaag	aggcttccgg	aaggaagaca	1740
gaaatggccg	ggacgagatg	gacatagaac	tccacgacgt	gtctcctatt	actcggcacc	1800
ccctgcaagc	tctcttcac	tgggccattc	ttcagaataa	gaaggaaactc	tccaaagtca	1860
tttgggagca	gaccaggggc	tgcactctgg	cagccctggg	agccagcaag	cttctgaaga	1920
ctctggccaa	agtgaagaac	gacatcaatg	ctgctgggga	gtccgaggag	ctggctaattg	1980
agtacgagac	ccgggctggt	gagctgttca	ctgagtgtta	cagcagcgat	gaagacttgg	2040
cagaacagct	gctggtctat	tctgtgaa	cttggggtgg	aagcaactgt	ctggagctgg	2100
cggtggaggc	cacagaccag	catttcacgc	cccagcctgg	ggtccagaat	tttctttcta	2160
agcaatggta	tggagagatt	tcccagagaca	ccaagaactg	gaagattatc	ctgtgtctgt	2220
ttattatacc	cttgggtggc	tgtggctttg	tatcatttag	gaagaaacct	gtcgacaagc	2280
acaagaagct	gctttgggtac	tatgtggcgt	tcttcacctc	ccccttcgtg	gtcttctcct	2340
ggaatgtggt	cttctacatc	gccttctctc	tgtgttttgc	ctacgtgctg	ctcatggatt	2400
tccattcggt	gccacacccc	cccagagctgg	tcctgtactc	gctgggtctt	gtcctcttct	2460

-49-

```

<210> 32
<211> 1104
<212> PRT
<213> Homo Sapiens

<400> 32
Met Ser Phe Arg Ala Ala Arg Leu Ser Met Arg Asn Arg Arg Asn Asp
 1          5          10          15
Thr Leu Asp Ser Thr Arg Thr Leu Tyr Ser Ser Ala Ser Arg Ser Thr
 20          25          30
Asp Leu Ser Tyr Ser Glu Ser Asp Leu Val Asn Phe Ile Gln Ala Asn
 35          40          45
Phe Lys Lys Arg Glu Cys Val Phe Phe Thr Lys Asp Ser Lys Ala Thr
 50          55          60
Glu Asn Val Cys Lys Cys Gly Tyr Ala Gln Ser Gln His Met Glu Gly
 65          70          75          80
Thr Gln Ile Asn Gln Ser Glu Lys Trp Asn Tyr Lys Lys His Thr Lys
 85          90          95
Glu Phe Pro Thr Asp Ala Phe Gly Asp Ile Gln Phe Glu Thr Leu Gly
 100         105         110
Lys Lys Gly Lys Tyr Ile Arg Leu Ser Cys Asp Thr Asp Ala Glu Ile
 115         120         125
Leu Tyr Glu Leu Leu Thr Gln His Trp His Leu Lys Thr Pro Asn Leu

```

<400> 32

Met	Ser	Phe	Arg	Ala	Ala	Arg	Leu	Ser	Met	Arg	Asn	Arg	Arg	Asn	Asp
1				5					10					15	
Thr	Leu	Asp	Ser	Thr	Arg	Thr	Leu	Tyr	Ser	Ser	Ala	Ser	Arg	Ser	Thr
			20					25					30		
Asp	Leu	Ser	Tyr	Ser	Glu	Ser	Asp	Leu	Val	Asn	Phe	Ile	Gln	Ala	Asn
			35				40					45			
Phe	Lys	Lys	Arg	Glu	Cys	Val	Phe	Phe	Thr	Lys	Asp	Ser	Lys	Ala	Thr
	50					55					60				
Glu	Asn	Val	Cys	Lys	Cys	Gly	Tyr	Ala	Gln	Ser	Gln	His	Met	Glu	Gly
65					70					75				80	
Thr	Gln	Ile	Asn	Gln	Ser	Glu	Lys	Trp	Asn	Tyr	Lys	Lys	His	Thr	Lys
			85						90					95	
Glu	Phe	Pro	Thr	Asp	Ala	Phe	Gly	Asp	Ile	Gln	Phe	Glu	Thr	Leu	Gly
			100					105					110		
Lys	Lys	Gly	Lys	Tyr	Ile	Arg	Leu	Ser	Cys	Asp	Thr	Asp	Ala	Glu	Ile
		115					120					125			
Leu	Tyr	Glu	Leu	Leu	Thr	Gln	His	Trp	His	Leu	Lys	Thr	Pro	Asn	Leu

-50-

130		135		140
Val Ile Ser Val Thr Gly	Gly Ala Lys Asn Phe	Ala Leu Lys Pro Arg		
145	150	155	160	
Met Arg Lys Ile Phe Ser Arg Leu Ile Tyr Ile Ala Gln Ser Lys Gly				
	165	170	175	
Ala Trp Ile Leu Thr Gly Gly Thr His Tyr Gly Leu Met Lys Tyr Ile				
	180	185	190	
Gly Glu Val Val Arg Asp Asn Thr Ile Ser Arg Ser Ser Glu Glu Asn				
	195	200	205	
Ile Val Ala Ile Gly Ile Ala Ala Trp Gly Met Val Ser Asn Arg Asp				
	210	215	220	
Thr Leu Ile Arg Asn Cys Asp Ala Glu Gly Tyr Phe Leu Ala Gln Tyr				
225	230	235	240	
Leu Met Asp Asp Phe Thr Arg Asp Pro Leu Cys Ile Leu Asp Asn Asn				
	245	250	255	
His Thr His Leu Leu Val Asp Asn Gly Cys His Gly His Pro Thr				
	260	265	270	
Val Glu Ala Lys Leu Arg Asn Gln Leu Glu Lys Tyr Ile Ser Glu Arg				
	275	280	285	
Thr Ile Gln Asp Ser Asn Tyr Gly Gly Lys Ile Pro Ile Val Cys Phe				
	290	295	300	
Ala Gln Gly Gly Gly Lys Glu Thr Leu Lys Ala Ile Asn Thr Ser Ile				
305	310	315	320	
Lys Asn Lys Ile Pro Cys Val Val Val Glu Gly Ser Gly Gln Ile Ala				
	325	330	335	
Asp Val Ile Ala Ser Leu Val Glu Val Glu Asp Ala Leu Thr Ser Ser				
	340	345	350	
Ala Val Lys Glu Lys Leu Val Arg Phe Leu Pro Arg Thr Val Ser Arg				
	355	360	365	
Leu Pro Glu Glu Glu Thr Glu Ser Trp Ile Lys Trp Leu Lys Glu Ile				
	370	375	380	
Leu Glu Cys Ser His Leu Leu Thr Val Ile Lys Met Glu Glu Ala Gly				
385	390	395	400	
Asp Glu Ile Val Ser Asn Ala Ile Ser Tyr Ala Leu Tyr Lys Ala Phe				
	405	410	415	
Ser Thr Ser Glu Gln Asp Lys Asp Asn Trp Asn Gly Gln Leu Lys Leu				
	420	425	430	
Leu Leu Glu Trp Asn Gln Leu Asp Leu Ala Asn Asp Glu Ile Phe Thr				
	435	440	445	
Asn Asp Arg Arg Trp Glu Ser Ala Asp Leu Gln Glu Val Met Phe Thr				
	450	455	460	
Ala Leu Ile Lys Asp Arg Pro Lys Phe Val Arg Leu Phe Leu Glu Asn				
465	470	475	480	
Gly Leu Asn Leu Arg Lys Phe Leu Thr His Asp Val Leu Thr Glu Leu				
	485	490	495	
Phe Ser Asn His Phe Ser Thr Leu Val Tyr Arg Asn Leu Gln Ile Ala				
	500	505	510	
Lys Asn Ser Tyr Asn Asp Ala Leu Leu Thr Phe Val Trp Lys Leu Val				
	515	520	525	
Ala Asn Phe Arg Arg Gly Phe Arg Lys Glu Asp Arg Asn Gly Arg Asp				
	530	535	540	
Glu Met Asp Ile Glu Leu His Asp Val Ser Pro Ile Thr Arg His Pro				
545	550	555	560	
Leu Gln Ala Leu Phe Ile Trp Ala Ile Leu Gln Asn Lys Lys Glu Leu				
	565	570	575	
Ser Lys Val Ile Trp Glu Gln Thr Arg Gly Cys Thr Leu Ala Ala Leu				
	580	585	590	
Gly Ala Ser Lys Leu Leu Lys Thr Leu Ala Lys Val Lys Asn Asp Ile				
	595	600	605	
Asn Ala Ala Gly Glu Ser Glu Glu Leu Ala Asn Glu Tyr Glu Thr Arg				
610	615	620		

-51-

Ala	Val	Glu	Leu	Phe	Thr	Glu	Cys	Tyr	Ser	Ser	Asp	Glu	Asp	Leu	Ala
625					630					635					640
Glu	Gln	Leu	Leu	Val	Tyr	Ser	Cys	Glu	Ala	Trp	Gly	Gly	Ser	Asn	Cys
				645					650					655	
Leu	Glu	Leu	Ala	Val	Glu	Ala	Thr	Asp	Gln	His	Phe	Ile	Ala	Gln	Pro
			660					665					670		
Gly	Val	Gln	Asn	Phe	Leu	Ser	Lys	Gln	Trp	Tyr	Gly	Glu	Ile	Ser	Arg
		675					680					685			
Asp	Thr	Lys	Asn	Trp	Lys	Ile	Ile	Leu	Cys	Leu	Phe	Ile	Ile	Pro	Leu
	690					695					700				
Val	Gly	Cys	Gly	Phe	Val	Ser	Phe	Arg	Lys	Lys	Pro	Val	Asp	Lys	His
705					710					715					720
Lys	Lys	Leu	Leu	Trp	Tyr	Tyr	Val	Ala	Phe	Phe	Thr	Ser	Pro	Phe	Val
				725					730					735	
Val	Phe	Ser	Trp	Asn	Val	Val	Phe	Tyr	Ile	Ala	Phe	Leu	Leu	Leu	Phe
			740					745					750		
Ala	Tyr	Val	Leu	Leu	Met	Asp	Phe	His	Ser	Val	Pro	His	Pro	Pro	Glu
	755						760					765			
Leu	Val	Leu	Tyr	Ser	Leu	Val	Phe	Val	Leu	Phe	Cys	Asp	Glu	Val	Arg
	770					775					780				
Gln	Trp	Tyr	Val	Asn	Gly	Val	Asn	Tyr	Phe	Thr	Asp	Leu	Trp	Asn	Val
785					790					795					800
Met	Asp	Thr	Leu	Gly	Leu	Phe	Tyr	Phe	Ile	Ala	Gly	Ile	Val	Phe	Arg
				805					810					815	
Leu	His	Ser	Ser	Asn	Lys	Ser	Ser	Leu	Tyr	Ser	Gly	Arg	Val	Ile	Phe
			820					825					830		
Cys	Leu	Asp	Tyr	Ile	Ile	Phe	Thr	Leu	Arg	Leu	Ile	His	Ile	Phe	Thr
		835					840					845			
Val	Ser	Arg	Asn	Leu	Gly	Pro	Lys	Ile	Ile	Met	Leu	Gln	Arg	Met	Leu
	850					855					860				
Ile	Asp	Val	Phe	Phe	Phe	Leu	Phe	Leu	Phe	Ala	Val	Trp	Met	Val	Ala
865					870					875					880
Phe	Gly	Val	Ala	Arg	Gln	Gly	Ile	Leu	Arg	Gln	Asn	Glu	Gln	Arg	Trp
				885					890					895	
Arg	Trp	Ile	Phe	Arg	Ser	Val	Ile	Tyr	Glu	Pro	Tyr	Leu	Ala	Met	Phe
			900					905					910		
Gly	Gln	Val	Pro	Ser	Asp	Val	Asp	Gly	Thr	Thr	Tyr	Asp	Phe	Ala	His
		915					920					925			
Cys	Thr	Phe	Thr	Gly	Asn	Glu	Ser	Lys	Pro	Leu	Cys	Val	Glu	Leu	Asp
	930					935					940				
Glu	His	Asn	Leu	Pro	Arg	Phe	Pro	Glu	Trp	Ile	Thr	Ile	Pro	Leu	Val
945					950					955					960
Cys	Ile	Tyr	Met	Leu	Ser	Thr	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Val
				965					970					975	
Ala	Met	Phe	Gly	Tyr	Thr	Val	Gly	Thr	Val	Gln	Glu	Asn	Asn	Asp	Gln
			980					985					990		
Val	Trp	Lys	Phe	Gln	Arg	Tyr	Phe	Leu	Val	Gln	Glu	Tyr	Cys	Ser	Arg
		995					1000					1005			
Leu	Asn	Ile	Pro	Phe	Pro	Phe	Ile	Val	Phe	Ala	Tyr	Phe	Tyr	Met	Val
	1010					1015					1020				
Val	Lys	Lys	Cys	Phe	Lys	Cys	Cys	Cys	Lys	Glu	Lys	Asn	Met	Glu	Ser
1025					1030					1035					104
Ser	Val	Cys	Cys	Phe	Lys	Asn	Glu	Asp	Asn	Glu	Thr	Leu	Ala	Trp	Glu
				1045					1050					1055	
Gly	Val	Met	Lys	Glu	Asn	Tyr	Leu	Val	Lys	Ile	Asn	Thr	Lys	Ala	Asn
			1060					1065					1070		
Asp	Thr	Ser	Glu	Glu	Met	Arg	His	Arg	Phe	Arg	Gln	Leu	Asp	Thr	Lys
		1075					1080					1085			
Leu	Asn	Asp	Leu	Lys	Gly	Leu	Leu	Lys	Glu	Ile	Ala	Asn	Lys	Ile	Lys
	1090					1095					1100				